

To: Enck, Judith[Enck.Judith@epa.gov]
Cc: Beauvais, Joel[Beauvais.Joel@epa.gov]; Rupp, Mark[Rupp.Mark@epa.gov]; Greene, Ashley[Greene.Ashley@epa.gov]; Mclain, Jennifer[Mclain.Jennifer@epa.gov]; Burneson, Eric[Burneson.Eric@epa.gov]
From: Grevatt, Peter
Sent: Mon 11/21/2016 12:15:58 PM
Subject: RE: 2013 Water PAG's - NO GOOD!

At OMB for final approval.

From: Enck, Judith
Sent: Monday, November 21, 2016 7:14 AM
To: Grevatt, Peter <Grevatt.Peter@epa.gov>
Cc: Beauvais, Joel <Beauvais.Joel@epa.gov>; Rupp, Mark <Rupp.Mark@epa.gov>; Greene, Ashley <Greene.Ashley@epa.gov>; Mclain, Jennifer <Mclain.Jennifer@epa.gov>; Burneson, Eric <Burneson.Eric@epa.gov>
Subject: Re: 2013 Water PAG's - NO GOOD!

Ok. Tx. Is this in final form or still under consideration ?

Sent from my iPhone

On Nov 20, 2016, at 9:42 PM, Grevatt, Peter <Grevatt.Peter@epa.gov> wrote:

Call with the water DDs is noon tomorrow. Mark, I'll send you the call in info first thing in the morning.

Sent from my iPhone

On Nov 20, 2016, at 8:50 PM, Beauvais, Joel <Beauvais.Joel@epa.gov> wrote:

Sure. Peter is already setting up a WDD call so you guys are welcome to join. We will make sure you're informed of the time.

Joel

On Nov 20, 2016, at 8:10 PM, Enck, Judith <Enck.Judith@epa.gov> wrote:

Deliberative Process / Ex. 5

Sent from my iPhone

On Nov 16, 2016, at 6:04 PM, Beauvais, Joel <Beauvais.Joel@epa.gov> wrote:

Deliberative Process / Ex. 5

Joel

On Nov 16, 2016, at 1:48 PM, Enck, Judith <Enck.Judith@epa.gov> wrote:

Joel and matt: I have received a few of these emails today, as have other RA's.

From: Katherine CC [<mailto:katcong3@gmail.com>]
Sent: Wednesday, November 16, 2016 12:56 PM
To: Enck, Judith <Enck.Judith@epa.gov>
Subject: 2013 Water PAG's - NO GOOD!

Hello Administrator Enck,

I am seriously and heartily against the implementation of the 2013 Water PAGs. It is not in our populace's best interest to raise acceptable levels of radiation in our drinking water,(or food). Nor is it in our interest to allow dumping of radioactive materials in municipal garbage dumps that are not made specifically for such. Or raising the levels of radiation acceptable at superfund sites. Living on Long Island, I know about super fund sites! They don't just go away, and are expensive to clean up, if they can be cleaned up at all! There are citizens among us who have no alternative but to continue to live in areas that are hazardous to their health. Raising acceptable levels will only serve to hurt innocent people who trust our government to do the right thing. It has happened already across our country, that people have lost everything, including their health, just because of situations like this. I sincerely protest these Water PAGS and am voicing my opinion in the hopes that sanity will prevail. Say no to these PAGs. In addition, please contact Administrator Gina McCarthy, who I am advised is at the

forefront of adjusting the guidelines in this manner. Please - just say no!

Sincerely,

Katherine Congdon Caldwell

3 Wood Drive

Oyster Bay, NY 11771

516.922.2504

To: Beauvais, Joel[Beauvais.Joel@epa.gov]
From: Peck, Gregory
Sent: Wed 10/12/2016 6:03:37 PM
Subject: FW: PAGs
AL-16-001-1672 - Boxer - PAGs - Draft Response V4 for ogwdw - eb.docx
JBeauvais NOTE re AL-16-001-1672 Barbara Boxer re PAG 10-11-16.pdf

Joel

I drafted this response after our conversation and in coordination with senior policy folks in
OCIR.

Ex. 5 - Deliberative Process

Ex. 5 - Deliberative Process

Glad to discuss in more detail.

Thanks,

Greg

Gregory E. Peck

Chief of Staff

Office of Water

U.S. Environmental Protection Agency

1200 Pennsylvania Avenue

Washington, D.C. 20460

202-564-5700

From: Greene, Ashley
Sent: Wednesday, October 12, 2016 10:13 AM
To: Peck, Gregory <Peck.Gregory@epa.gov>
Cc: Orvin, Chris <Orvin.Chris@epa.gov>; Harris, Adrienne <Harris.Adrienne@epa.gov>
Subject: FW: PAGs

Hi Greg,

We just received Joel's comments back on this letter (PDF attached) and just trying to clarify a few things before we make any edits. The attached word letter is our understanding of what is the latest version.

Ex. 5 - Deliberative Process

Ex. 5 - Deliberative Process

If you could please clarify both the direction we should take in editing the letter and provide the correct word version of the letter we should edit that would be appreciated.

Thanks,
Ashley

To: Beauvais, Joel[Beauvais.Joel@epa.gov]
Cc: Greene, Ashley[Greene.Ashley@epa.gov]
From: Grevatt, Peter
Sent: Wed 3/23/2016 8:49:35 PM
Subject: FW: Withdraw the proposed increase in radiation allowed in drinking water

FYI

From: Flynn, Mike
Sent: Wednesday, March 23, 2016 4:38 PM
To: Grevatt, Peter <Grevatt.Peter@epa.gov>; Burneson, Eric <Burneson.Eric@epa.gov>; Edwards, Jonathan <Edwards.Jonathan@epa.gov>
Subject: FW: Withdraw the proposed increase in radiation allowed in drinking water
Importance: High

FYI

Mike Flynn, Director

Office of Radiation & Indoor Air

U.S. EPA

202-343-9356

From: Caleb Laieski [mailto:Ex. 6 - Personal Privacy]
Sent: Wednesday, March 23, 2016 2:21 PM
To: Ex. 6 - Personal Privacy; Mccarthy, Gina <McCarthy.Gina@epa.gov>
Cc: Ex. 6 - Personal Privacy; McCabe, Janet <McCabe.Janet@epa.gov>; Flynn, Mike <Flynn.Mike@epa.gov>; Meiburg, Stan <Meiburg.Stan@epa.gov>; Fritz, Matthew <Fritz.Matthew@epa.gov>; Mccarthy, Gina <McCarthy.Gina@epa.gov>
Subject: Withdraw the proposed increase in radiation allowed in drinking water
Importance: High

Secretary Donovan, Administrator McCarthy, and White House Staff:

I am very concerned about the EPA's revised Protective Action Guides for responding to radiological releases.

These PAGs would significantly weaken radiation protections for me and my family by increasing the amount of radioactivity allowed in my drinking water.

This rule change is unacceptable. Everyone should have access to safe drinking water at all times -- nobody should have to consume highly radioactive water, no matter the emergency.

I want to see you withdraw the proposed increase in radiation levels.

Thank you very much for your time and all you do,

Caleb Laieski

National Advocate for the LGBT Community, Public Safety, and the Environment

To: Beauvais, Joel[Beauvais.Joel@epa.gov]
From: Diane D'Arrigo
Sent: Thur 1/21/2016 11:22:16 PM
Subject: Letter from organizations opposing weakened radioactive water PAGs and requesting a meeting with OMB
[Group Letter to OMB re Water PAGs 12-22-15.pdf](#)
[GroupPAGltr9-16-13 to EPA.pdf](#)

Joel Beauvais

EPA AA Office of Water

Beauvais.joel@Epa.gov

Dear Acting Administrator Beauvais

I am forwarding the letter from organizations sent to the Office of Management and Budget opposing EPA's proposed weakening radionuclide levels in proposed Water Protective Action Guidance PAGs

We will be meeting with OMB regarding this matter next week.

Thank you so much for any help you can provide in preventing the legalization of increased radioactivity in water.

Sincerely

Diane D'Arrigo

Nuclear Information and Resource Service

On behalf of the groups listed below

dianed@nirs.org

From: Diane D'Arrigo

Sent: Tuesday, December 22, 2015 6:54 PM

To: hshelanski@omb.eop.gov; jlaity@omb.eop.gov; mechols@omb.eop.gov

Cc: mccarthy.gina@epa.gov; mccabe.janet@epa.gov; stoner.nancy@epa.gov; aastanislaus@epa.gov; Michal_Freedhoff@markey.senate.gov; bettina_poirier@epw.senate.gov; Diane D'Arrigo; McKinzie, Matthew; Allison Fisher; Catherine Thomasson; Damon Moglen; Cindy Folkers (cindy@beyondnuclear.org); Jeff Ruch (jruch@peer.org); Anna Aurilio; Deborah Brancato (dbrancato@riverkeeper.org); Wenonah Hauter (whauter@fwwatch.org); Lynn Thorp CWA; Dan Hirsch 2

Subject: Letter from organizations opposing weakened radioactive water PAGs and requesting a meeting with OMB

RE: EPA Protective Action Guidance, Radionuclides in Water

Administrator Shelanski

Director Jim Laity

Records Management Specialist Mabel Echols:

Please find pasted below, and attached, a letter from a dozen organizations regarding a proposed weakening of radiation protection standards for drinking water, recently submitted by EPA to OMB, and our request for a meeting on the subject before OMB acts. I have also attached a 2013 letter to EPA discussing their options at that time which would increase allowable radioactivity in drinking water to levels far in excess of Safe Drinking Water Act limits.

If you would like additional information or clarification, please let me know. I look forward to coordinating a meeting in the New Year on this important matter.

Sincerely,

Diane D'Arrigo

Nuclear Information and Resource Service

dianed@nirs.org

301 270 6477 x 15

Mobile 202 841 8588

(Point of Contact for Organizations listed)

Physicians for Social Responsibility ♦ Natural Resources Defense Council

Friends of the Earth ♦ Food and Water Watch

Clean Water Action ♦ Public Citizen ♦ Beyond Nuclear

Public Employees for Environmental Responsibility

Nuclear Information and Resource Service

Environment America ♦ Riverkeeper

Committee to Bridge the Gap

Howard Shelanski, Administrator

Office of Information and Regulatory Affairs

Office of Management and Budget

725 17th Street, NW □

Washington, DC 20503

December 22, 2015

Re: Proposed Amendments to EPA Protective Action Guidance (RIN 2060-ZA19)

Dear Administrator Shelanski:

On December 5 of this year, OMB received for review from the US EPA proposed changes to its Protective Action Guides (PAGs) for responding to radiological releases. Press reports indicate that the proposals would markedly increase the levels of allowable radioactive contaminants in drinking water. We write to inform you that such an effort would be met with a firestorm of controversy, and urge that the proposals be rejected. We also request a meeting/conference call with your senior staff tasked with the review.

Currently, protective actions are to be taken when radionuclide concentrations in drinking water exceed the Maximum Contaminant Limits of the Safe Drinking Water Act. Legal constraints (anti-backsliding requirements) prohibit EPA from relaxing those limits. However, there has been a long-standing push to undermine the Safe Drinking Water Act and allow vastly higher concentrations of radioactivity in water people consume.

This action, however, was too controversial for EPA to take when it published its PAGs a couple of years ago. So EPA published the PAGs without changing the water limits, but indicated it was interested at some time in the future in considering breaching the Safe Drinking Water Act limits for PAG purposes. We presume that that is what EPA has now transmitted to OMB for approval. This could result in the public being forced to consume water with concentrations of radionuclides hundreds or even thousands of times higher than considered acceptable under the Safe Drinking Water Act.

We want to alert you that such a proposal would be extraordinarily controversial. Scores of groups opposed such possible action in the past, and we believe this would be a high visibility matter of substantial concern to legislators, the news media, and the public. People would be extremely upset when they learn that the Obama Administration is contemplating imposing

consumption of water with vastly higher concentrations of radioactivity than considered acceptable under the Safe Drinking Water Act.

Furthermore, the claim that there is no significant economic impact is incorrect. Were the Administration to force this proposal through, and a radiological release contaminated water far above longstanding acceptable levels, protective actions might not be taken. People would have to consume highly radioactive water. The affected area would likely shut down. Schools would close; businesses would be shuttered; people would move out rather than drink water with radioactivity concentrations far above what has been historically considered acceptable.

We ask you to not approve the extraordinarily controversial proposal, and we request a meeting or conference call to discuss the troubling nature of what is quietly being put forward.

Sincerely,

Daniel Hirsch, President

Committee to Bridge the Gap

Diane D'Arrigo, Director*

Radioactive Waste Project

Nuclear Information and Resource Service

Wenonah Hauter, Executive Director

Food and Water Watch

Catherine Thomasson, M.D.

Executive Director

Physicians for Social Responsibility

Damon Moglen, Senior Strategic Advisor

Friends of the Earth

Anna Aurilio, Washington DC Office Director

Environment America

Jeff Ruch, Executive Director

Public Employees for Environmental Responsibility

Matthew McKinzie, Ph.D.

Director, Nuclear Program

Natural Resources Defense Council

Lynn Thorp, National Campaigns Director

Clean Water Action

Deborah Brancato, Staff Attorney

Riverkeeper

Allison Fisher, Outreach Director

Public Citizen

Cindy Folkers, Radiation Specialist

Beyond Nuclear

* *Point of contact:* Diane D'Arrigo 301-270-6477 x 15 dianed@nirs.org

cc: Senator Ed Markey

Senator Barbara Boxer

EPA Administrator Gina McCarthy

Janet McCabe, EPA Assistant Administrator, Office of Air and Radiation

~~Nancy Stoner, EPA Assistant Administrator, Office of Water~~

Mathy Stanislaus, EPA Assistant Administrator, Office of Solid Waste and Emergency Response

Jim Laity, OIRA, Natural Resources & Environment Branch

Mabel Echols, OIRA, Records Management Specialist

Joel Beauvais Acting Administrator, Office of Water

To: Edwards, Jonathan[Edwards.Jonathan@epa.gov]
Cc: McCabe, Janet[McCabe.Janet@epa.gov]; Millett, John[Millett.John@epa.gov]; Veal, Lee[Veal.Lee@epa.gov]; Perrin, Alan[Perrin.Alan@epa.gov]; Grevatt, Peter[Grevatt.Peter@epa.gov]
From: Beauvais, Joel
Sent: Thur 1/12/2017 4:49:21 AM
Subject: Re: Drinking Water PAGs LIVE!

Thanks, Jon and company, for all your help and support in getting this done. Peter and his folks worked really hard on this and we're very happy to see it make it across the finish line.

Joel

On Jan 11, 2017, at 8:17 PM, Edwards, Jonathan <Edwards.Jonathan@epa.gov> wrote:

Janet, as you know this is a major step forward and years in the making. The Emergency response community will welcome this and will see that the lessons learned from Fukushima (and all of the discussions post 9/11) have come together finally in one total and complete manual. Well done!--Jon

Sent from my iPhone

On Jan 11, 2017, at 7:55 PM, McCabe, Janet <McCabe.Janet@epa.gov> wrote:

Yay! Congratulations OW!

From: Millett, John
Sent: Wednesday, January 11, 2017 2:19 PM
To: McCabe, Janet <McCabe.Janet@epa.gov>; Lewis, Josh <Lewis.Josh@epa.gov>
Subject: FW: Drinking Water PAGs LIVE!

Fyi --

From: Wieder, Jessica
Sent: Wednesday, January 11, 2017 2:16 PM
To: Wadlington, Christina <Wadlington.Christina@epa.gov>
Cc: Nesky, Anthony <Nesky.Tony@epa.gov>; Thornton, Marisa <Thornton.Marisa@epa.gov>; Shogren, Angela <Shogren.Angela@epa.gov>; DeCair,

Sara <DeCair.Sara@epa.gov>; Millett, John <Millett.John@epa.gov>; Romero, Carmen <Romero.Carmen@epa.gov>; Perrin, Alan <Perrin.Alan@epa.gov>; Veal, Lee <Veal.Lee@epa.gov>; Snead, Kathryn <Snead.Kathryn@epa.gov>; Dennis, Allison <Dennis.Allison@epa.gov>

Subject: Drinking Water PAGs LIVE!

<https://www.epa.gov/radiation/protective-action-guides-pags>

Jessica Wieder

U.S. Environmental Protection Agency

Radiation Protection Program

202-343-9201

m: 202-420-9353

Sent from my iPhone

On Jan 11, 2017, at 2:07 PM, Wadlington, Christina <Wadlington.Christina@epa.gov> wrote:

Check in? The blog is scheduled to post at 2:15. Let me know if it should be delayed.

From: Millett, John

Sent: Wednesday, January 11, 2017 1:38 PM

To: Wieder, Jessica <Wieder.Jessica@epa.gov>; Nesky, Anthony <Nesky.Tony@epa.gov>; Wadlington, Christina <Wadlington.Christina@epa.gov>

Cc: DeCair, Sara <DeCair.Sara@epa.gov>

Subject: RE: Any word?

Wonderful – whenever ready.

From: Wieder, Jessica
Sent: Wednesday, January 11, 2017 1:30 PM
To: Nesky, Anthony <Nesky.Tony@epa.gov>; Wadlington, Christina <Wadlington.Christina@epa.gov>
Cc: Millett, John <Millett.John@epa.gov>; DeCair, Sara <DeCair.Sara@epa.gov>
Subject: RE: Any word?

Putting finishing touches on the draft webpages now. We should be good for 2pm.

Jess

Jessica Wieder

U.S. EPA

Radiation Protection Program

Center for Radiation Information and Outreach

w: 202-343-9201

c: 202-420-9353

From: Nesky, Anthony
Sent: Wednesday, January 11, 2017 1:20 PM
To: Wieder, Jessica <Wieder.Jessica@epa.gov>; Wadlington, Christina <Wadlington.Christina@epa.gov>
Cc: Millett, John <Millett.John@epa.gov>
Subject: RE: Any word?

I see no obstacle {yet}.

Tony

From: Wieder, Jessica
Sent: Wednesday, January 11, 2017 1:19 PM
To: Wadlington, Christina <Wadlington.Christina@epa.gov>
Cc: Millett, John <Millett.John@epa.gov>; Nesky, Anthony
<Nesky.Tony@epa.gov>
Subject: Re: Any word?

We have the document and are working on adding the disclaimer. Can we do a 2 pm launch?

Jess

Jessica Wieder

U.S. Environmental Protection Agency

Radiation Protection Program

202-343-9201

m: 202-420-9353

Sent from my iPhone

On Jan 11, 2017, at 1:14 PM, Wadlington, Christina
<Wadlington.Christina@epa.gov> wrote:

Sorry I am in a meeting. What's up? I can step out if you need me to.

From: Wieder, Jessica
Sent: Wednesday, January 11, 2017 12:50 PM
To: Wadlington, Christina <Wadlington.Christina@epa.gov>
Cc: Nesky, Anthony <Nesky.Tony@epa.gov>
Subject: RE: Any word?

No word! Still no document.

Jessica Wieder

U.S. EPA

Radiation Protection Program

Center for Radiation Information and Outreach

w: 202-343-9201

c: 202-420-9353

From: Wadlington, Christina
Sent: Wednesday, January 11, 2017 12:44 PM
To: Wieder, Jessica <Wieder.Jessica@epa.gov>
Cc: Nesky, Anthony <Nesky.Tony@epa.gov>
Subject: Any word?

Sam let me know that we did the final clear of the incorporated document back to OAR at around 12pm.

To: Travis Loop (Loop.Travis@epa.gov)[Loop.Travis@epa.gov]
Cc: Dennis, Allison[Dennis.Allison@epa.gov]
From: Beauvais, Joel
Sent: Wed 1/4/2017 2:08:34 PM
Subject: PAGES BLOG 12 20 16
PAGES BLOG 12 20 16.docx

Thanks. Some edits and a request for a bit more text – can I see this one more time once you’ve tuned up? Thanks.

To: Grevatt, Peter[Grevatt.Peter@epa.gov]; Eric Burneson[Burneson.Eric@epa.gov]
Cc: Campbell, Ann[Campbell.Ann@epa.gov]
From: Beauvais, Joel
Sent: Tue 1/3/2017 2:50:48 PM
Subject: PAGs

Good morning – happy new year! Let's incorporate anything relevant from this into the pre-brief for meeting with the NGOs:



EPA Documents Reveal PAG Water Radiation Allowances Far Above SDWA

EPA has released documents that reveal the agency is recommending protective drinking water levels for scores of radionuclides after a radiological emergency that significantly exceed Safe Drinking Water Act (SDWA) limits, and that the agency previously only released a few of these levels publicly in order to “avoid confusion.”

The release, in response to a Freedom of Information Act (FOIA) lawsuit by Public Employees for Environmental Responsibility (PEER), reveals new concentration levels under the agency's proposed water chapter for its Protective Action Guides (PAG) for radiological emergencies for dozens of radionuclides. In the draft version of the chapter available for public comment, EPA had only released limits for four of the 110 radionuclides covered, and declined to reveal how much they differed from SDWA limits, according to PEER, which represents local, state and federal environmental agency employees.

“To cover its embarrassment after being caught dissembling about Fukushima fallout on American soil, EPA is pursuing a justification for assuming a radioactive fetal position even in cases of ultra-high contamination,” PEER Executive Director Jeff Ruch said in a Dec. 22 press release. “The Safe Drinking Water Act is a federal law; it cannot be nullified or neutered by regulatory ‘guidance,’” he added. The PAGs are EPA guidance, rather than a regulation.

The highly controversial water chapter is currently undergoing review at the White House Office of Management & Budget (OMB). Once finalized, it is slated to be included in EPA's PAG manual, which the agency issued in early December. The manual revises

a 1992 version and sets radiological protection criteria for federal, state, local and tribal emergency response officials to use in a wide variety of incidents involving a radiological release.

The proposed water chapter would deem protective action dose levels of 500 millirems/year (mrem/yr) in the first year after an incident for the general population, and 100 mrem/yr in the first year for infants, children age 15 and under, and pregnant or nursing women, according to a notice of availability for the draft drinking water PAG.

PEER in October sued EPA to release data on the proposed water PAG that the group has argued would help justify a stricter guidance. The suit in part sought documents disclosing the allowable concentrations of radioactivity in drinking water that EPA is proposing for 110 radionuclides, after the group repeatedly raised concerns that the proposal would set new concentrations, or Derived Response Levels (DRLs), for 110 radionuclides, but disclosed only three of those concentrations. Even prior to the FOIA release, dozens of environmental groups and the New York's attorney general's office were severely critical of the draft drinking water chapter and urged EPA to scrap it.

To: Campbell, Ann[Campbell.Ann@epa.gov]
From: Beauvais, Joel
Sent: Wed 11/23/2016 12:57:09 PM
Subject: Re: FRN EPA Drinking Water PAG 11-21-16

No problem - that's great

On Nov 23, 2016, at 7:54 AM, Campbell, Ann <Campbell.Ann@epa.gov> wrote:

Joel, given the program addressed your comments I've cleared this to move on to OP. If you have concerns, let me know.

From: Evalenko, Sandy
Sent: Wednesday, November 23, 2016 7:49 AM
To: Campbell, Ann <Campbell.Ann@epa.gov>; Lousberg, Macara <Lousberg.Macara@epa.gov>
Cc: Arrigoni, Holly <Arrigoni.Holly@epa.gov>
Subject: FW: FRN EPA Drinking Water PAG 11-21-16

Ann: I'm checking with the program to see if Joel has cleared this for OMB review. Do you know if Joel's seen the revised PAGs FRN?

Sandy

From: Greene, Ashley
Sent: Tuesday, November 22, 2016 4:38 PM
To: Evalenko, Sandy <Evalenko.Sandy@epa.gov>; Arrigoni, Holly <Arrigoni.Holly@epa.gov>
Cc: Flaharty, Stephanie <Flaharty.Stephanie@epa.gov>; Christ, Lisa <Christ.Lisa@epa.gov>
Subject: RE: FRN EPA Drinking Water PAG 11-21-16

Hi Sandy and Holly,

Please see attached both clean and tracked versions with Joel's edits addressed to the FRN. This should be good to provide to OP now to then provide to OMB.

Steph will be in tomorrow morning if there are additional questions or items needed to move forward.

Thanks,

Ashley

From: Beauvais, Joel
Sent: Monday, November 21, 2016 12:56 PM
To: Grevatt, Peter <Grevatt.Peter@epa.gov>; Burneson, Eric <Burneson.Eric@epa.gov>
Cc: Campbell, Ann <Campbell.Ann@epa.gov>
Subject: FRN EPA Drinking Water PAG 11-21-16

Peter/Eric - My comments on the PAG FRN. I have no further comments on the RTC or other documents.

Joel

<FRN EPA Drinking Water PAG 11-22-16_Tracked.docm>

<FRN EPA Drinking Water PAG 11-22-16_Clean.docm>

To: Grevatt, Peter[Grevatt.Peter@epa.gov]; Eric Burneson[Burneson.Eric@epa.gov]
Cc: Campbell, Ann[Campbell.Ann@epa.gov]
From: Beauvais, Joel
Sent: Mon 11/21/2016 5:56:14 PM
Subject: FRN EPA Drinking Water PAG 11-21-16
[FRN EPA Drinking Water PAG 11-21-16.docm](#)

Peter/Eric - My comments on the PAG FRN. I have no further comments on the RTC or other documents.

Joel

To: Enck, Judith[Enck.Judith@epa.gov]
Cc: Rupp, Mark[Rupp.Mark@epa.gov]; Grevatt, Peter[Grevatt.Peter@epa.gov]
From: Beauvais, Joel
Sent: Mon 11/21/2016 1:50:57 AM
Subject: Re: 2013 Water PAG's - NO GOOD!

Sure. Peter is already setting up a WDD call so you guys are welcome to join. We will make sure you're informed of the time.

Joel

On Nov 20, 2016, at 8:10 PM, Enck, Judith <Enck.Judith@epa.gov> wrote:

Hi Joel. If this is not finalized, I think a number of ra's would appreciate being briefed on this. We are receiving a number of emails and I would like to understand this

Sent from my iPhone

On Nov 16, 2016, at 6:04 PM, Beauvais, Joel <Beauvais.Joel@epa.gov> wrote:

Thanks - some of the groups have a campaign based on a misrepresentation of what the PAGs are and reflect. I have asked Peter and Eric to connect with regional WDDs so folks are up to speed and can respond as necessary.

Joel

On Nov 16, 2016, at 1:48 PM, Enck, Judith <Enck.Judith@epa.gov> wrote:

Joel and matt: I have received a few of these emails today, as have other RA's.

From: Katherine CC [mailto:] Ex. 6 - Personal Privacy
Sent: Wednesday, November 16, 2016 12:56 PM
To: Enck, Judith <Enck.Judith@epa.gov>
Subject: 2013 Water PAG's - NO GOOD!

Hello Administrator Enck,

I am seriously and heartily against the implementation of the 2013 Water PAGs. It

is not in our populace's best interest to raise acceptable levels of radiation in our drinking water,(or food). Nor is it in our interest to allow dumping of radioactive materials in municipal garbage dumps that are not made specifically for such. Or raising the levels of radiation acceptable at superfund sites. Living on Long Island, I know about super fund sites! They don't just go away, and are expensive to clean up, if they can be cleaned up at all! There are citizens among us who have no alternative but to continue to live in areas that are hazardous to their health. Raising acceptable levels will only serve to hurt innocent people who trust our government to do the right thing. It has happened already across our country, that people have lost everything, including their health, just because of situations like this. I sincerely protest these Water PAGS and am voicing my opinion in the hopes that sanity will prevail. Say no to these PAGs. In addition, please contact Administrator Gina McCarthy, who I am advised is at the forefront of adjusting the guidelines in this manner. Please - just say no!

Sincerely,

Katherine Congdon Caldwell

3 Wood Drive

Oyster Bay, NY 11771

Ex. 6 - Personal Privacy

To: Grevatt, Peter[Grevatt.Peter@epa.gov]; Eric Burneson[Burneson.Eric@epa.gov]
From: Beauvais, Joel
Sent: Fri 8/26/2016 7:36:24 PM
Subject: FW: Courtesy Copy of AL-16-001-1672 (Barbara Boxer)
[AL-16-001-1672.pdf](#)

FYI

From: Jones-Coleman, Diane
Sent: Friday, August 26, 2016 2:08 PM
To: Beauvais, Joel <Beauvais.Joel@epa.gov>; Gilinsky, Ellen <Gilinsky.Ellen@epa.gov>;
Peck, Gregory <Peck.Gregory@epa.gov>
Cc: Lousberg, Macara <Lousberg.Macara@epa.gov>; Orvin, Chris <Orvin.Chris@epa.gov>
Subject: Courtesy Copy of AL-16-001-1672 (Barbara Boxer)

FROM: Senator Barbara Boxer

RECEIVED: August 26, 2016

SUBJECT: EPA's Proposed Protective Action Guides for Drinking Water

ASSIGN: OGWDW to prepare response for OW-DAA signature

DUE OW-IO: September 2, 2016

Diane

Diane C. Coleman

OW Correspondence Team Leader
(202) 564-0379
E-mail: Jones-Coleman.Diane@epa.gov

To: Loop, Travis[Loop.Travis@epa.gov]
From: Beauvais, Joel
Sent: Wed 7/27/2016 3:33:13 AM
Subject: Fwd: FYI

Begin forwarded message:

From: "Distefano, Nichole" <DiStefano.Nichole@epa.gov>
Date: July 26, 2016 at 9:56:20 AM AKDT
To: "Beauvais, Joel" <Beauvais.Joel@epa.gov>, "Grevatt, Peter" <Grevatt.Peter@epa.gov>, "Burneson, Eric" <Burneson.Eric@epa.gov>
Subject: FYI

DRINKING WATER:

Groups decry EPA's 'very creepy' radioactivity guidelines

Tiffany Stecker, E&E reporter

Published: Tuesday, July 26, 2016

More than 60 environmental groups are urging U.S. EPA to withdraw proposed radioactivity guidelines for drinking water after a nuclear disaster.

In a letter sent yesterday to Administrator Gina McCarthy, the groups say the draft Protective Action Guide would "place the public at significant risk."

"This is a very creepy plan rolled out in an especially creepy fashion," said Jeff Ruch, executive director of Public Employees for Environmental Responsibility, in a statement. "It is unconscionable that full impacts of suspending drinking water safeguards during long periods of nuclear fallout are hidden from the public."

EPA says the guide is aimed at preventing acute and chronic effects of radiation. The proposal would help local and state authorities evaluate water systems immediately after a radiation accident and decide whether to find alternative water resources or limit exposure in certain groups (E&ENews PM, June 7).

The proposal says the public could be exposed to 500 millirem in drinking water, while pregnant and nursing women and children 15 years and younger would be limited to 100 millirem.

The guidance, EPA said, would not replace the maximum contaminant levels in the Safe Drinking Water Act. After an accident, water utility operators would be required to follow Safe Drinking Water Act limits once the emergency has passed, EPA said last month.

But greens say the guide's levels are far higher than thresholds in the law. The Safe Drinking Water

Act's maximum contaminant level for iodine-131 is 3 picocuries per liter; the proposed guideline's limit is 10,350 picocuries per liter.

The law's limit for strontium-90 is 8 picocuries per liter. The proposed guideline's is 7,400 picocuries per liter.

The guide was initially proposed at the end of the George W. Bush administration but wasn't finalized.

PEER and other groups lashed out at the proposal last month, saying the limits are even higher than those proposed in the Bush years.

"The not-so-Protective Action Guides protect the polluters from liability, not the public from radiation," said Diane D'Arrigo of the Nuclear Information and Resource Service.

In their comments, the groups also criticize EPA for failing to reveal the full list of radionuclide limits.

"This game of 'hide the ball' is unacceptable for a public agency and in matters of such public importance," wrote the groups.

EPA has received more than 5,600 comments on the guidelines, according to Regulations.gov. Though many criticized the agency, professionals working on nuclear issues vouched support for the guidelines.

"Every U.S. nuclear power plant has a detailed plan for responding in the event of an emergency to protect public health and safety," [wrote](#) Mark Miller, a certified health physicist at Sandia National Laboratories in New Mexico. "The agency has arrived at a sound approach to achieve a necessary recovery from extremely unlikely emergency events."

Nichole Distefano

Associate Administrator

Office of Congressional and Intergovernmental Relations

Environmental Protection Agency

(202) 564-5200

Distefano.Nichole@epa.gov

To: Grevatt, Peter[Grevatt.Peter@epa.gov]
Cc: Osegueda, Carlos[Osegueda.Carlos@epa.gov]
From: Beauvais, Joel
Sent: Wed 6/15/2016 2:32:24 AM
Subject: Re: PAG follow-up

Great thanks, Peter

On Jun 14, 2016, at 8:27 PM, Grevatt, Peter <Grevatt.Peter@epa.gov> wrote:

Joel, here is some additional background relative to development of the PAGs doc for drinking water. Note that EPA did not propose a PAG in the last administration, but analyses related to options that were being considered were obtained by FOIA. Presumably, that was the information that was used in developing the article that recently appeared on this topic.

I had a good discussion with John Rumper today and I'll be glad to fill you in when we are both back in the office on Friday (or earlier if you want to do a call).

I'll be at USGS tomorrow morning with Mike and then I head to Cincy to meet on Thursday with my TSC and WSD staff and the ORD staff who have been supporting efforts on Flint and LCR. Carlos will be acting in my absence.

Thx, P.G.

<PAG Manual Values for Other Media 6-13-16.docx>

To: John Rumpler[jrumpler@environmentamerica.org]
From: Beauvais, Joel
Sent: Tue 6/14/2016 4:21:06 PM
Subject: Re: EPA proposes weakening radioactivity standard?

I asked Peter or Eric to give you a ring on this.

On Jun 13, 2016, at 2:29 PM, John Rumpler <jrumpler@environmentamerica.org> wrote:

Hi Joel,

As per my note to Peter below, we're concerned about this radioactivity standard.

John

John Rumpler, Senior Attorney

Environment America

294 Washington Street, Suite 500 Boston, MA 02108

(617) 747-4306 (o) (617) 997-8296 (c)

jrumpler@environmentamerica.org

follow me at @JohnRumpler

We're hiring a new clean water advocate in Washington, DC. Apply here:
<http://jobs.environmentamerica.org/clean-water-advocate.html>

From: John Rumpler [mailto:jrumpler@environmentamerica.org]
Sent: Thursday, June 09, 2016 12:19 PM
To: Grevatt.peter@Epa.gov
Subject: FW: EPA proposes weakening radioactivity standard?

Hi Peter,

I'm just seeing this, and needless to say, it raises questions and concerns to say the least. I am sure we will be getting questions about this – from the community, allies on the Hill, the media, etc. Feel free to call me at your convenience. 617 997-8296 (cell)

John

John Rumpler, Senior Attorney

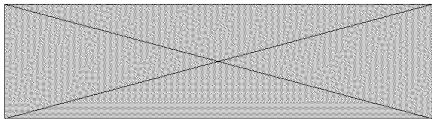
Environment America

294 Washington Street, Suite 500 Boston, MA 02108

(617) 747-4306 (o) (617) 997-8296 (c)

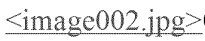
jrumpler@environmentamerica.org

follow me at @JohnRumpler



EPA Proposal Allows Radiation Exposure in Drinking Water Equivalent to 250 Chest X-Rays a Year

The U.S. Environmental Protection Agency (EPA) [quietly issued proposals](#) Monday to allow radioactive contamination in [drinking water](#) at concentrations vastly greater than allowed under the Safe Drinking Water Act. The new guidance would permit radiation exposures equivalent to 250 chest X-rays a year. Environmental groups are calling the proposal “shocking” and “egregious.”

 On Monday, the U.S. Environmental Protection Agency (EPA) quietly issued proposals to allow radioactive contamination in drinking water at concentrations vastly greater than allowed under the Safe Drinking Water Act. Photo credit: Shutterstock

The EPA proposed [Protective Action Guides](#) (PAGs) would allow the general population to drink water hundreds to thousands of times more radioactive than is now legal. For example, radioactive iodine-131 has a current limit of 3 pico-curies per liter (pCi/L), in water but the new guidance would allow 10,350 (pCi/L), 3,450 times higher. For strontium-90, which causes leukemia, the current limit is 8 pCi/L; the new proposed value is 7,400 pCi/L, a 925-fold increase.

“Clean water is essential for health,” Dr. Catherine Thomasson, executive director of Physicians for Social Responsibility, said. “Just like lead, radiation when ingested in small amounts is very hazardous to our health. It is inconceivable that EPA could now quietly propose allowing enormous increases in radioactive contamination with no action to protect the public, even if concentrations are a thousand times higher than under the Safe Drinking Water Act.”

The Bush Administration in its last days unsuccessfully tried to put forward [similar proposals](#), which the incoming Obama Administration pulled back. Now, in the waning months of the Obama Administration, the EPA’s radiation office is trying again.

“These levels are even higher than those proposed by the Bush Administration—really unprecedented and shocking,” Diane D’Arrigo, Nuclear Information and Resource Service, said.

The Bush Administration proposal for strontium 90 was 6,650 pCi/L; the new proposal is 7,400 pCi/L. For iodine-131, the Bush proposal was 8,490 pCi/L; the new proposal is 10,350 pCi/L. For cesium-137, the proposal was for 13,600 pCi/L; Obama “beats” Bush with a value of 16,570 pCi/L.

All radionuclides can cause [cancer](#) and other health and reproductive problems; there is no completely safe level. Strontium causes bone cancer and leukemia. Babies, children and females are at even greater risk than adult males.

PAGs apply not just to emergencies such as “dirty bombs” and [Fukushima](#)-type nuclear power meltdowns but also to any radiological release for which a protective action may be considered—even a radiopharmaceutical transport spill. The proposed drinking water PAG

would apply not to the immediate phase after a release, but rather to the intermediate phase, after the release has been stabilized and lasting up to several years thereafter.

Radiation doses (in rems) cannot be measured but are calculated based on some measurements and many assumptions. The current Safe Drinking Water Act limits are based on 4 millirems per year. The PAGs would allow 500 millirems per year for the general population. A single chest X-ray gives about 2 millirems. Because of the way EPA is changing the definition of dose, for many radionuclides, the allowable concentration would be thousands, tens of thousands and even millions of times higher than set under the Safe Drinking Water Act.

Internal EPA documents obtained under the Freedom of Information Act show that the EPA itself concluded that the proposed concentrations “would exceed MCLs [Maximum Contaminant Limits of the Safe Drinking Water Act] by a factor of 100, 1000 and in two instances, 7 million.” The EPA internal analysis showed that for one radionuclide, “drinking a very small glass of water of approximately 4 ounces ... would result in an exposure that corresponds to a lifetime of drinking ... water ... at the MCL level.”

“All of this is extraordinary, since EPA has recently accepted the National Academy of Sciences’ most current risk estimates for radiation, indicating radiation is considerably more dangerous per unit dose than previously believed,” D’Arrigo said. “Pushing allowable concentrations of radioactivity in drinking water up orders of magnitude above the longstanding Safe Drinking Water Act levels goes in exactly the opposite direction than the official radiation risk estimates go.

“Under these proposals, people would be forced to get the radiation equivalent of a chest X-ray 5 days a week, 50 weeks a year, for up to several years, with no medical benefit or informed consent, just from drinking water. This is immoral.”

The public has 45 days from when it is published in the Federal Register to comment to the EPA on the PAG-Protective Action Guides.

“These proposed changes are a particularly egregious gift to the energy industry, which would essentially be given a free pass whenever nuclear or fracking waste enters our water supply,” Wenonah Hauter, executive director of Food & Water Watch and author of the new book, *Frackopoly*, said. “The EPA under President Obama has also whitewashed the impact of fracking on drinking water. This is more of the same when it comes to his EPA’s pro-industry, hands-off regulation of toxic practices that can harm public health.”

To: Ragland, Micah[Ragland.Micah@epa.gov]
Cc: Grevatt, Peter[Grevatt.Peter@epa.gov]; Enobakhare, Rosemary[Enobakhare.Rosemary@epa.gov]
From: Beauvais, Joel
Sent: Thur 6/9/2016 6:05:48 PM
Subject: Re: EPA proposes weakening radioactivity standard?

Thanks - yes this is us, and the reaction is not unexpected

Joel

On Jun 9, 2016, at 1:33 PM, Ragland, Micah <Ragland.Micah@epa.gov> wrote:

Hey Joel and Peter -- Not sure if this falls under OW or not but forwarding it along in case it does. Environment America and PFSR have called me today to express their concerns on it.

We let you all know if any other groups reach out to us on this.

Sent from my iPhone

Begin forwarded message:

From: John Rumpler <jrumpler@environmentamerica.org>
Date: June 9, 2016 at 1:23:03 PM EDT
To: "Ragland, Micah" <Ragland.Micah@epa.gov>
Subject: FW: EPA proposes weakening radioactivity standard?

Hi Micah,

Good talking with you. Below is the EcoWatch piece I mentioned and my note to Peter on it.

Best,

John

John Rumpler, Senior Attorney

Environment America

294 Washington Street, Suite 500 Boston, MA 02108

(617) 747-4306 (o) (617) 997-8296 (c)

jrumpler@environmentamerica.org

follow me at @JohnRumpler

We're hiring a new clean water advocate in Washington, DC. Apply here:
<http://jobs.environmentamerica.org/clean-water-advocate.html>

From: John Rumpler [<mailto:jrumpler@environmentamerica.org>]

Sent: Thursday, June 09, 2016 12:19 PM

To: Grevatt.peter@Epa.gov

Subject: FW: EPA proposes weakening radioactivity standard?

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John

John Rumpler, Senior Attorney

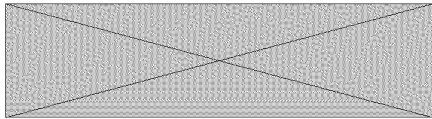
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follow me at @JohnRumpler



EPA Proposal Allows Radiation Exposure in Drinking Water Equivalent to 250 Chest X-Rays a Year

[Food & Water Watch](#) | June 8, 2016 1:33 pm | [Comments](#)

The U.S. Environmental Protection Agency (EPA) [quietly issued proposals](#) Monday to allow radioactive contamination in [drinking water](#) at concentrations vastly greater than allowed under the Safe Drinking Water Act. The new guidance would permit radiation exposures equivalent to 250 chest X-rays a year. Environmental groups are calling the proposal “shocking” and “egregious.”

[<image002.jpg>](#) On Monday, the U.S. Environmental Protection Agency (EPA) quietly issued proposals to allow radioactive contamination in drinking water at concentrations vastly greater than allowed under the Safe Drinking Water Act. Photo credit: Shutterstock

The EPA proposed [Protective Action Guides](#) (PAGs) would allow the general population to drink water hundreds to thousands of times more radioactive than is now legal. For example, radioactive iodine-131 has a current limit of 3 pico-curies per liter

(pCi/L), in water but the new guidance would allow 10,350 (pCi/L), 3,450 times higher. For strontium-90, which causes leukemia, the current limit is 8 pCi/L; the new proposed value is 7,400 pCi/L, a 925-fold increase.

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To: Grevatt, Peter[Grevatt.Peter@epa.gov]; Eric Burneson[Burneson.Eric@epa.gov]
From: Beauvais, Joel
Sent: Thur 1/21/2016 11:30:02 PM
Subject: FW: Letter from organizations opposing weakened radioactive water PAGs and requesting a meeting with OMB
[Group Letter to OMB re Water PAGs 12-22-15.pdf](#)
[GroupPAGltr9-16-13 to EPA.pdf](#)

FYI

From: Diane D'Arrigo [mailto:dianed@nirs.org]
Sent: Thursday, January 21, 2016 6:22 PM
To: Beauvais, Joel <Beauvais.Joel@epa.gov>
Subject: Letter from organizations opposing weakened radioactive water PAGs and requesting a meeting with OMB

Joel Beauvais

EPA AA Office of Water

Beauvais.joel@Epa.gov

Dear Acting Administrator Beauvais

I am forwarding the letter from organizations sent to the Office of Management and Budget opposing EPA's proposed weakening radionuclide levels in proposed Water Protective Action Guidance PAGs

We will be meeting with OMB regarding this matter next week.

Thank you so much for any help you can provide in preventing the legalization of increased radioactivity in water.

Sincerely

Diane D'Arrigo

Nuclear Information and Resource Service

On behalf of the groups listed below

dianed@nirs.org

From: Diane D'Arrigo

Sent: Tuesday, December 22, 2015 6:54 PM

To: hshelanski@omb.eop.gov; jlaity@omb.eop.gov; mechols@omb.eop.gov

Cc: mccarthy.gina@epa.gov; mccabe.janet@epa.gov; stener.nancy@epa.gov; aastanislaus@epa.gov;

Michal_Freedhoff@markey.senate.gov; bettina_poirier@epw.senate.gov; Diane D'Arrigo; McKinzie,

Matthew; Allison Fisher; Catherine Thomasson; Damon Moglen; Cindy Folkers

(cindy@beyondnuclear.org); Jeff Ruch (jruch@peer.org); Anna Aurilio; Deborah Brancato

(dbrancato@riverkeeper.org); Wenonah Hauter (whauter@fwwatch.org); Lynn Thorp CWA; Dan Hirsch 2

Subject: Letter from organizations opposing weakened radioactive water PAGs and requesting a meeting with OMB

RE: EPA Protective Action Guidance, Radionuclides in Water

Administrator Shelanski

Director Jim Laity

Records Management Specialist Mabel Echols:

Please find pasted below, and attached, a letter from a dozen organizations regarding a proposed weakening of radiation protection standards for drinking water, recently submitted by EPA to OMB, and our request for a meeting on the subject before OMB acts. I have also attached a 2013 letter to EPA discussing their options at that time which would increase allowable radioactivity in drinking water to levels far in excess of Safe Drinking Water Act limits.

If you would like additional information or clarification, please let me know. I look forward to coordinating a meeting in the New Year on this important matter.

Sincerely,

Diane D'Arrigo

Nuclear Information and Resource Service

dianed@nirs.org

301 270 6477 x 15

Mobile 202 841 8588

(Point of Contact for Organizations listed)

Physicians for Social Responsibility ♦ Natural Resources Defense Council

Friends of the Earth ♦ Food and Water Watch

Clean Water Action ♦ Public Citizen ♦ Beyond Nuclear

Public Employees for Environmental Responsibility

Nuclear Information and Resource Service

Environment America ♦ Riverkeeper

Committee to Bridge the Gap

Howard Shelanski, Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
725 17th Street, NW
Washington, DC 20503

December 22, 2015

Re: Proposed Amendments to EPA Protective Action Guidance (RIN 2060-ZA19)

Dear Administrator Shelanski:

On December 5 of this year, OMB received for review from the US EPA proposed changes to its Protective Action Guides (PAGs) for responding to radiological releases. Press reports indicate that the proposals would markedly increase the levels of allowable radioactive contaminants in drinking water. We write to inform you that such an effort would be met with a firestorm of controversy, and urge that the proposals be rejected. We also request a meeting/conference call with your senior staff tasked with the review.

Currently, protective actions are to be taken when radionuclide concentrations in drinking water exceed the Maximum Contaminant Limits of the Safe Drinking Water Act. Legal constraints (anti-backsliding requirements) prohibit EPA from relaxing those limits. However, there has been a long-standing push to undermine the Safe Drinking Water Act and allow vastly higher concentrations of radioactivity in water people consume.

This action, however, was too controversial for EPA to take when it published its PAGs a couple of years ago. So EPA published the PAGs without changing the water limits, but indicated it was interested at some time in the future in considering breaching the Safe Drinking Water Act

limits for PAG purposes. We presume that that is what EPA has now transmitted to OMB for approval. This could result in the public being forced to consume water with concentrations of radionuclides hundreds or even thousands of times higher than considered acceptable under the Safe Drinking Water Act.

We want to alert you that such a proposal would be extraordinarily controversial. Scores of groups opposed such possible action in the past, and we believe this would be a high visibility matter of substantial concern to legislators, the news media, and the public. People would be extremely upset when they learn that the Obama Administration is contemplating imposing consumption of water with vastly higher concentrations of radioactivity than considered acceptable under the Safe Drinking Water Act.

Furthermore, the claim that there is no significant economic impact is incorrect. Were the Administration to force this proposal through, and a radiological release contaminated water far above longstanding acceptable levels, protective actions might not be taken. People would have to consume highly radioactive water. The affected area would likely shut down. Schools would close; businesses would be shuttered; people would move out rather than drink water with radioactivity concentrations far above what has been historically considered acceptable.

We ask you to not approve the extraordinarily controversial proposal, and we request a meeting or conference call to discuss the troubling nature of what is quietly being put forward.

Sincerely,

Daniel Hirsch, President

Committee to Bridge the Gap

Diane D'Arrigo, Director*

Radioactive Waste Project

Nuclear Information and Resource Service

Wenonah Hauter, Executive Director

Food and Water Watch

Catherine Thomasson, M.D.

Executive Director

Physicians for Social Responsibility

Damon Moglen, Senior Strategic Advisor

Friends of the Earth

Anna Aurilio, Washington DC Office Director

Environment America

Jeff Ruch, Executive Director

Public Employees for Environmental Responsibility

Matthew McKinzie, Ph.D.

Director, Nuclear Program

Natural Resources Defense Council

Lynn Thorp, National Campaigns Director

Clean Water Action

Deborah Brancato, Staff Attorney

Riverkeeper

Allison Fisher, Outreach Director

Public Citizen

Cindy Folkers, Radiation Specialist

Beyond Nuclear

* *Point of contact:* Diane D'Arrigo 301-270-6477 x 15 dianed@nirs.org

cc: Senator Ed Markey

Senator Barbara Boxer

EPA Administrator Gina McCarthy

Janet McCabe, EPA Assistant Administrator, Office of Air and Radiation

~~Nancy Stoner, EPA Assistant Administrator, Office of Water~~

Mathy Stanislaus, EPA Assistant Administrator, Office of Solid Waste and Emergency Response

Jim Laity, OIRA, Natural Resources & Environment Branch

Mabel Echols, OIRA, Records Management Specialist

Joel Beauvais Acting Administrator, Office of Water

To: Bethel, Heidi[Bethel.Heidi@epa.gov]
From: Beauvais, Joel
Sent: Mon 12/7/2015 6:27:02 PM
Subject: RE: Drinking Water PAG documents requested by Joel

Thx

From: Bethel, Heidi
Sent: Monday, December 07, 2015 12:55 PM
To: Beauvais, Joel <Beauvais.Joel@epa.gov>
Cc: Greene, Ashley <Greene.Ashley@epa.gov>; Penman, Crystal <Penman.Crystal@epa.gov>
Subject: FW: Drinking Water PAG documents requested by Joel

Hi Joel,

You requested these PAGs documents last week. I'm forwarding on to you, in case you want the electronic version.

Heidi

From: Greene, Ashley
Sent: Monday, December 07, 2015 9:28 AM
To: Bethel, Heidi <Bethel.Heidi@epa.gov>; Penman, Crystal <Penman.Crystal@epa.gov>
Subject: FW: Drinking Water PAG documents requested by Joel

I just wanted to confirm that Joel received these materials he requested last week.

Thanks!

Ashley

From: Christ, Lisa

Sent: Friday, December 04, 2015 10:58 AM

To: Greene, Ashley <Greene.Ashley@epa.gov>; Mason, Paula <Mason.Paula@epa.gov>

Cc: Penman, Crystal <Penman.Crystal@epa.gov>

Subject: Drinking Water PAG documents requested by Joel

At today's briefing, Joel requested the attached documents. Please forward to the appropriate contact.

Thanks!

Lisa

~~~~~

Lisa Christ, Chief

Targeting and Analysis Branch

Office of Ground Water and Drinking Water

USEPA

1200 Pennsylvania Ave NW  
Washington, DC 20460-0001  
phone: 202.564.8354  
fax: 202.564-3760

Mail Code: 4607M

**Cc:** Lousberg, Macara[Lousberg.Macara@epa.gov]  
**To:** Grevatt, Peter[Grevatt.Peter@epa.gov]; Burneson, Eric[Burneson.Eric@epa.gov]  
**From:** Beauvais, Joel  
**Sent:** Sat 12/5/2015 1:36:24 PM  
**Subject:** DW PAG comments  
[EO12866 PAG for DW Draft Guidance 20151119 +icb.docx](#)

Hi, Peter and Eric - Just a couple minor comments on the draft DW PAG. Well done.

Joel

**To:** Office of Ground Water and Drinking Water (draft Radioactive Water PAGs) Docket Number (EPA-HQ-OAR-2007-0268; FRL-9947-55-OW)

**From:** Fifty-Eight Organizations and two elected officials (undersigned) via Nuclear Information and Resource Service (NIRS) Contact: Mary Olson [maryo@nirs.org](mailto:maryo@nirs.org) 828-252-8409, Diane D'Arrigo (Primary Contact after July 13) [dianed@nirs.org](mailto:dianed@nirs.org) 301-270-6477

NOTE: the co-signers to this request have been compiled as a courtesy to the Agency. We have emails from each organization requesting they be signed on this request.

**RE: Request for 120 day extension to comment on EPA's Draft Protective Action Guide (PAG) for Drinking Water After a Radiological Incident, EPA-HQ-OAR-2007-0268; FRL-9947-55-OW**

Dear Lisa Christ, Office of Air and Radiation, and Office of Water:

We ask that EPA extend the public comment period on the Draft Protective Action Guide (PAG) for Drinking Water After a Radiological Incident (draft Radioactive Water PAGs) for 120 days beyond the July 25<sup>th</sup> deadline.

The changes proposed in the EPA draft Radioactive Water PAGs are extremely significant. They are complicated on their own and additionally by their proposed inclusion in the Draft PAGs (2013 PAG Manual at <https://www.epa.gov/radiation/protective-action-guides-pags>) on which many of us commented in 2013. Commenting must be done in conjunction with the existing PAG Manual since they would be combined in practice. Since radiation's effects are multiple, additive, cumulative and synergistic, we need to consider the impacts of proposed 100 to 500 millirems/year from water (Water PAG) in light of that from food, air, etc. (PAG) and bioaccumulation.

We appreciate EPA's acknowledgement in this draft of the reality that different life stages are differently impacted by radiation. The portion of the proposal recommending different levels of radioactive water contamination for different life stages adds complexity requiring more than technical analysis and discussion to comment meaningfully, especially when developing organizational positions and responses. Practical and philosophical issues must be considered as well. It appears that the life stage sensitivity is only being addressed in the Water PAG, not the whole PAG so this must be considered and assessed as well.

Excerpts to one of the supporting documents (NCRP-174) on which the proposed Water PAG is based have just been put up on the [www.regulations.gov](http://www.regulations.gov) website (in July) but not the whole document in its entirety. The excerpts were not publically available for nearly half of the current comment period. We request this report and all other information used and supporting the Water PAGs be made publicly available, free of charge and that the comment period be extended to accommodate full review.

There are some confusing legal implications that need clarification before submitting comments. The length of time for which PAG guidance would apply is not expressly limited yet assumptions are made that it will be for limited periods only. Although the Federal Register says the PAG guidance levels don't supersede the Safe Drinking Water Act levels (maximum concentration levels) does the PAG relieve the

polluter from legal liability? Clarification of these questions would be helpful and certainly additional time is needed to provide meaningful comments.

We request a 120 day extension. We also respectfully ask that you decide and notify us of your decision by July 15<sup>th</sup>.

Thank you for consideration of this extension request.

Sincerely,

Timothy Judson, Executive Director  
Nuclear Information and Resource Service  
Takoma Park, MD

Barbara Gottlieb, Environment & Health Director  
Physicians for Social Responsibility  
Washington, DC

Lynn Thorp  
Clean Water Action  
Washington, DC

Catherine Lincoln  
Committee to Bridge the Gap  
Ben Lomond, CA

Ken Bossong  
SUN DAY Campaign  
Takoma Park, MD

Cindy Folkers  
Beyond Nuclear  
Takoma Park, MD

Deb Katz  
Citizen Awareness Network  
Rowe, MA

Dr. Gwen DuBois, President  
Chesapeake Physicians for Social Responsibility  
Baltimore, MD

Toni Iseeman, Mayor pro tem of Laguna Beach  
Laguna Beach, CA

Pam Patterson, Mayor  
San Juan Capistrano, CA

Elaine Holder, President  
San Luis Obispo Mothers for Peace  
San Luis Obispo, CA

Jane Williams, Executive Director  
California Communities Against Toxics  
Rosamond, CA

Marylina Kelley,  
Tri-Valley Communities Against a Radioactive  
Environment  
Livermore, CA

Joni Arends  
Concerned Citizens for Nuclear Safety  
Santa Fe, NM

Don Safer  
Tennessee Environmental Coalition  
Nashville, Tennessee

Becky D. Rafter, MPA, Executive Director  
Georgia Women's Action for New Directions  
Atlanta, GA

Dave Kraft  
Nuclear Energy Information Service  
Chicago, IL

Robert M. Gould, MD, President  
San Francisco Bay Area Chapter  
Physicians for Social Responsibility

Robert K. Musil, Ph.D., M.P.H.  
President & CEO, Rachel Carson Council  
Bethesda, MD

Sarah Fields  
Uranium Watch  
Moab, Utah

Jessica Azulay, Program Director  
Alliance for a Green Economy  
Syracuse, NY

Pamela Hughes  
Sierra Club Niagara Group Chair  
New York State, Atlantic Chapter

Iris Marie Bloom  
Executive Director  
Protecting Our Waters  
NY, NJ, PA

Debra Borowiecki, Co-coordinator  
LAWPA - Local Authority Western PA  
Murrysville, PA

Paula Gotsch  
Grandmothers, Mothers and More for Energy  
Safety  
Normandy Beach, NJ

Barbara Warren  
Citizens' Environmental Coalition  
New York

Alice Hirt  
Don't Waste Michigan  
Holland, MI

Wes Raymond - Administrator  
Citizens for Alternatives to Chemical  
Contamination  
Lake, Michigan

Ed Oles, President  
Citizens To Preserve Ligonier Valley  
Ligonier, PA

Ruth Thomas  
Environmentalists Inc.  
Columbus, NC

Louis A. Zeller  
Blue Ridge Environmental Defense League  
VA, NC, SC, TN, AL, GA

Connie Kline  
Ohio CARE - Citizens Against a Radioactive  
Environment  
Cleveland, OH

Bob Ciesielski, Energy Committee Chair  
Sierra Club Atlantic Chapter  
Albany, NY

Jenny Lisak, Co-director  
Pennsylvania Alliance for Clean Water and Air  
Punxsutawney, PA

Dr. Lewis Cuthbert  
Alliance for a Clean Environment  
Pottstown, PA. 19465

Priscilla Star  
Coalition Against Nukes  
Wainscott, NY

Michael J. Keegan  
Coalition for a Nuclear Free Great Lakes  
Monroe, MI

Regina Minniss  
Crabshell Alliance  
Baltimore, Maryland

Lynda Schneekloth, Advocacy Chair  
Western New York Environmental Alliance  
Buffalo, New York

Jan Milburn, President  
Westmoreland Marcellus Citizens' Group  
Westmoreland County, PA



Kristen Combs  
Green Party of Pennsylvania  
Philadelphia, PA

Gillian Graber  
Protect PT  
Trafford, PA

Susan Gordon, Coordinator  
Multicultural Alliance for a Safe Environment  
New Mexico

Greg Wingard, Executive Director  
Waste Action Project  
Covington, WA

Rita M Conn  
Let Laguna Vote, and, Secure Nuclear Waste  
Laguna Beach, California

Gary Headrick  
San Clemente Green  
San Clemente, CA

Faye More, Chair  
Port Hope Community Health Concerns  
Committee  
Port Hope, Ontario

Theresa A. McClenaghan  
Executive Director and Counsel  
Canadian Environmental Law Association  
Toronto, ON

Tanya Keefe  
Great Lakes Environmental Alliance  
Port Huron, MI

Briget Shields  
Marcellus Protest/Protect Our Parks Pittsburgh  
Pittsburgh, PA

Ellen Connett  
Fluoride Action Network  
Canton, New York

Stephen Brittle  
Don't Waste Arizona  
Phoenix, Arizona

Mark Haim  
Mid-Missouri Peaceworks/  
Missourians for Safe Energy  
Columbia, Missouri

Michael Welch  
Redwood Alliance  
Arcata, CA

Jessie Collins  
Citizens' Resistance at Fermi Two (CRAFT)  
MI

Ziggy Kleinau,  
Co-founder and Outreach Director (BPEG)  
Binbrook, Ontario

Ryan Metcalfe  
KIMO Denmark  
Kommunernes Internationale Miljøorganisation  
(Local authorities environmental organisation)

**To:** Beauvais, Joel[Beauvais.Joel@epa.gov]  
**From:** Susan Bradford  
**Sent:** Fri 1/6/2017 5:10:24 AM  
**Subject:** Your moral imperative

It is your duty to reject the drinking water PAGs. They do not protect pregnancy and childhood. In combination with the other PAGs, they would result in risks much higher than what EPA states are its risk goals for protecting public health. Don't let your legacy be drinking water poisoned by radioactivity!

DO THE RIGHT THING! It is your moral imperative.

--

Susan Bradford  
LVN, CCE, CHT  
Doula, Birth Ceremonialist  
[www.thebirthjourney.net](http://www.thebirthjourney.net)

**To:** Kudarauskas, Paul[Kudarauskas.Paul@epa.gov]  
**From:** Canzler, Erica  
**Sent:** Mon 8/12/2013 9:19:16 PM  
**Subject:** FW: Quote on PAGS taken out of context  
[comment NEIS.pdf](#)

FYI

Erica Canzler

Director, CBRN Consequence Management Advisory Team

Office of Emergency Management

U.S. EPA

(o) 202-564-2359

(c) 202-431-3146

[canzler.eric@epa.gov](mailto:canzler.eric@epa.gov)

**From:** Tulis, Dana  
**Sent:** Monday, August 12, 2013 5:10 PM  
**To:** Bergman, Shawna  
**Cc:** Stanislaus, Mathy; Breen, Barry; Stanton, Larry; Canzler, Erica  
**Subject:** FW: Quote on PAGS taken out of context

Shawna, here is the letter addressed to the Administrator as part of the process of reviewing the PAGS. A number of comments are coming in through that process. The Administrator may never get to see this, but regardless we wanted to provide you with the letter.

Mathy and Barry,

I am sure you recall that the quote from Paul Kudarauskas was taken out of context, but unfortunately the quote keeps getting re-stated.

We are supporting Paul of course, but this comment takes the next step of suggesting he be dismissed. When the article was first released we drafted a desk statement, which I cut and paste below.

A large-scale incident similar to Fukushima would require a site-specific cleanup process. The first part of the desk statement is the most relevant. Thanks again for your support.

## DESK STATEMENT:

The EPA scientist misquoted in the Global Security Newswire article was not addressing US Environmental Protection Agency (EPA) policy, nor was he speaking on how EPA would approach a cleanup. He was addressing the realities of responding to and cleaning up a large-scale incident similar to Fukushima, based on EPA observations in Japan. EPA has learned a great deal from the Japanese experience and thus subscribes to a site-specific cleanup process, which involves working together on innovative solutions to reduce recovery time while protecting human health and the environment.

## **Background:**

An article was recently published in Global Security Newswire titled, “White House Supports Rollback of Cleanup Standards for Nuclear Incidents” by Douglas Guarino. Mr. Guarino has taken many liberties in this article related to his characterization of the EPA Protective Action Guidance documents (PAGs) and the Agency’s position on nuclear incident cleanup. OEM has coordinated with ORIA, the lead office for the PAGs and has agreed to only address the issue of the misrepresentation of an OEM staff’s comments. ORIA determined that there is plenty of information publicly available that clarifies the record on the PAGs.

In the article, Mr. Guarino provides a quote from Paul Kudarauskas that is taken completely out of context. A member of OEM's Consequence Management Advisory Team, Mr. Kudarauskas recently spoke at a symposium hosted by the Defense Strategies Institute. He is quoted in the article as follows:

“Remarks one EPA emergency management official made recently might shed some light on how some staff in that office view Superfund's applicability to nuclear disasters, however.

Speaking at a March 12 symposium hosted by the Defense Strategies Institute, Paul Kudarauskas, of the EPA Consequence Management Advisory Team, said events like Fukushima would cause a “fundamental shift” to cleanup. U.S. residents are used to having “cleanup to perfection,” but will have to abandon their “not in my backyard” mentality in such cases, Kudarauskas said. “People are going to have to put their big boy pants on and suck it up.”

Here is the piece as it appeared:

<http://www.nti.org/gsn/article/white-house-backs-rollback-cleanup-standards-nuclear-incidents/>

**To:** Cardarelli, John[Cardarelli.John@epa.gov]  
**From:** DeCair, Sara  
**Sent:** Mon 12/12/2016 4:50:35 PM  
**Subject:** Abstract -- needs your input  
Abstract NCRP 2017 Recovery Guidance Gaps DeCair Cardarelli.docx

Help?

Sara D. DeCair

202-343-9108

Room 1416 B in WJC West

[www.epa.gov/radiation/protective-action-guides-pags](http://www.epa.gov/radiation/protective-action-guides-pags)

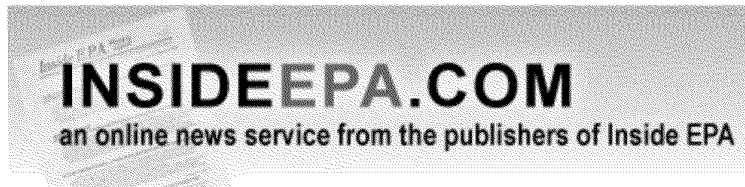
**To:** Ottlinger, Michael[Ottlinger.Michael@epa.gov]; Cardarelli, John[Cardarelli.John@epa.gov]  
**From:** Yund, Cynthia  
**Sent:** Tue 12/6/2016 7:20:35 PM  
**Subject:** RE: EPA Finalizes Radiological Manual With 1992 Levels Despite Updated Science

Sounds like a mess to me.

Cynthia Yund, PhD

**From:** Ottlinger, Michael  
**Sent:** Tuesday, December 06, 2016 11:46 AM  
**To:** Yund, Cynthia <Yund.Cynthia@epa.gov>; Cardarelli, John <Cardarelli.John@epa.gov>  
**Subject:** EPA Finalizes Radiological Manual With 1992 Levels Despite Updated Science

Saw this today. Interesting stuff. These PAGS seem analogous to NIOSH's recommended exposure levels, REL's, which I thought had some kind of legal, perhaps semi-legal, status? Maybe "legal" isn't the right word, but some kind of acceptance as an expert opinion?



## EPA Finalizes Radiological Manual With 1992 Levels Despite Updated Science

December 05, 2016

EPA has quietly released a final guide for responding to radiological incidents, expanding the guide's reach while maintaining many of the protective action levels set in 1992, despite newer scientific findings EPA has adopted for other applications that one environmentalist radiation expert says should have led the agency to set stricter levels.

EPA Administrator Gina McCarthy Dec. 1 signed a notice making available the final Protective Action Guides (PAGs) and Planning Guidance for Radiological Incidents, commonly known as the PAG Manual. The manual revises a 1992 version and sets radiological protection criteria for federal, state, local and tribal emergency response officials to use in a wide variety of incidents involving a radiological release.

The agency chose to finalize the manual now without a highly controversial drinking water chapter that is still under interagency review at the White House Office of Management & Budget (OMB). EPA in the notice says it plans to eventually add the drinking water section to the "Intermediate Phase" chapter of the manual and then reissue the PAG manual. Environmentalists and the New York's attorney general's office have been severely critical of the draft drinking water chapter and have urged EPA to scrap it.

The guidance outlines three radiological incident phases for which it makes protective action recommendations. These are the early phase, the intermediate phase and the late phase. In the early phase, EPA calls for sheltering-in-place or evacuating the public if radioactive levels reach between 1 and 5 roentgen equivalent man (rem) -- a conventional unit used for equivalent dose -- over a four day period following the incident. It also calls for supplementary administration of potassium iodide as a thyroid blocking agent per the latest guidance from the Food & Drug Administration if a child is subjected to 5 rem in the early phase of exposure -- hours to days.

In the intermediate phase, the PAG calls for relocating the public if the projected dose is equal to or greater than 2 rem in the first year, and 0.5 rem in the second and subsequent years. It also includes additional protective dose recommendations depending on food exposures or other circumstances.

For cleanup and waste disposal in the late phase, the manual includes brief guidance for planning the cleanup process and the disposal of radioactive waste, EPA says in a fact sheet issued with the guide.

EPA has expanded the breadth of the guidance from the 1992 version, saying the protective actions described in the manual now apply to a wide range of incidents, although generally to those involving significant radioactive releases. These incidents include nuclear weapons complex or nuclear power plant accidents, a fire in a nuclear fuel manufacturing plant, transportation accidents involving radioactive material or terrorist acts involving a radiological dispersal device.



## Questionable Authority

The environmentalist questions the need for such a guidance when the Superfund law already contains authorities to respond to releases, including emergencies. “[D]espite their rote claims to the contrary,” the PAG manual undercuts the Superfund law, the source says.

The source says EPA seems “to admit the problem a bit” in a footnote, suggesting it may lack legal authority to issue the PAGs. The source points to a footnote not included in the draft PAG manual, and now repeated throughout the final that the source says effectively indicates the agency lacks the “legal basis to do any of this.” In the footnote to a section on cleanup under the late phase, EPA notes that “this cleanup process does not rely on and does not affect any authority, including the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), . . . and the National Contingency Plan (NCP).”

It goes on to say: “This document expresses no view as to the availability of legal authority to implement this process in any particular situation.”

EPA is stressing that the PAG manual is non-binding, and does not set legal radiation limits or supersede environmental laws or regulations.

In the notice, which in part responds to comments critical of the draft, EPA says the levels established in the manual “are intended to be used only in an emergency when radiation levels have already exceeded environmental standards and could be high enough to cause health effects unless protective actions are taken.” The agency contends that PAGs are meant to prevent adverse health impacts by triggering public safety measures such as evacuation and to minimize “unnecessary exposures.”

The notice continues, “The PAGs are set at a level where the health risk from radiation exposure that could be avoided with protective action outweighs the risk associated with taking the safety measures, e.g., traffic accidents, trips and falls or anxiety associated with dislocation or the separation of family members.”

In response to criticism from environmental groups that the PAGs would not be stringent enough, EPA contends that “[t]here is an abundant conservatism built into the derivation of the PAGs, and into the assumptions used to generate derived response levels, to ensure that the PAGs are appropriate emergency guides for all members of the public, including sensitive subpopulations.”

## **Weaker Standards**

But the environmentalist says EPA has effectively weakened the standards, and notes that the details in the manual contradict claims made in the notice and fact sheet.

EPA in the fact sheet says the manual “includes dose calculations based on the latest science.” But the source says, “What stunned me is it’s exactly the opposite.”

The manual says that most of the PAGs and related actions remain unchanged from the 1992 manual. For instance in its basis for early phase PAGs, EPA references Biological Effects of Ionizing Radiation (BEIR) III, which are now out-of-date cancer and non-cancer risk estimates from exposure to low-level ionizing radiation issued by the National Academy of Sciences (NAS). The source points out that EPA has since adopted more recent NAS findings -- BEIR V and VII -- that show risks are greater than previously estimated for the same level of radiation received. Therefore, the new science shows that levels should be more stringent, the source argues.

This new document contains essentially the same levels as the 1992 document, and is based on science from the 1970s, at the same time EPA is saying it is based on new science, the source says.

Further, EPA weakened the 1992 manual by eliminating certain evacuation requirements triggered when skin and thyroid doses exceed certain levels, the source says. Also, it eliminates a PAG for the intermediate phase that called for relocation if it was projected that the population would accumulate exposure at 5 rem over a 50-year period. EPA in the manual says this was removed for simplicity. The 50-year relocation PAG “is rarely, if ever, the driver for extending a relocation area beyond that prompted by the first or second year relocation PAGs in scenarios that have been analyzed.”

In addition, the manual says that “dose projections over 50 years after a radiological incident for various age groups show no significant differences for individuals exposed at 3 months of age versus adult.”

The fact sheet also contradicts the manual on the time interval for the intermediate phase, with the former saying it will last weeks to months, while the

details included in the manual, including a table that specifies PAG levels, indicate this time period could last up to several years. -- *Suzanne Yohannan* ([syohannan@iwpnews.com](mailto:syohannan@iwpnews.com))

Related News | [Toxics](#) | [Waste](#) | [Water](#) |

196953

**To:** Ellis, Jerry[Ellis.Jerry@epa.gov]; Hernandez-Quinones, Samuel[Hernandez.Samuel@epa.gov]  
**From:** Christ, Lisa  
**Sent:** Mon 11/3/2014 2:34:02 PM  
**Subject:** FW: Material for 11/4 and 11/5 PAG briefings  
[OW-OAR PAG-brief\\_10312014\\_v1.docx](#)  
[PAGs 101 10-17-2014 v1.ppt](#)  
[Background on SDWA MCLs for Radionuclides.docx](#)  
[grg\\_radionuclides.pdf](#)  
[OW Protocol August 2014 v 2.docx](#)

....  
,,.,,

Hi Guys,

We need to send the materials to Ken according to the attached protocol. I sent a read ahead on the radionuclides rule to OARIA that may be a helpful reminder for Ken.

Thanks –

Lisa

**From:** Perrin, Alan  
**Sent:** Friday, October 31, 2014 5:51 PM  
**To:** OAR Briefings  
**Cc:** Flynn, Mike; Burneson, Eric; Edwards, Jonathan; DeCair, Sara; Christ, Lisa; Veal, Lee; Cherepy, Andrea  
**Subject:** Material for 11/4 and 11/5 PAG briefings

The attached material is for:

- 1) our internal DW PAG pre-brief with Janet McCabe (11/4 at 12:30 pm), and
- 2) the Janet McCabe/Ken Kopocis OW-OAR DW PAG briefing (12/5 at 4:30 pm).

Note that the attached “PAGs 101” file is a very short primer for background reading; the “OW-OAR PAG-brief” file will be the focus at the meetings. Please let me know if you have any questions. –Alan

---

Alan Perrin, Deputy Director  
Radiation Protection Division, USEPA  
ofc (202) 343-9775 | mbl (202) 279-0376

# Radionuclides Rule: A Quick Reference Guide

## Overview of the Rule

|                                                                                                                                                                                                |                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Title*                                                                                                                                                                                         | Radionuclides Rule<br>66 FR 76708<br>December 7, 2000<br>Vol. 65, No. 236                                                                                                                            |
| Purpose                                                                                                                                                                                        | Reducing the exposure to radionuclides in drinking water will reduce the risk of cancer. This rule will also improve public health protection by reducing exposure to all radionuclides.             |
| General Description                                                                                                                                                                            | The rule retains the existing MCLs for combined radium-226 and radium-228, gross alpha particle radioactivity, and beta particle and photon activity. The rule regulates uranium for the first time. |
| Utilities Covered                                                                                                                                                                              | Community water systems, all size categories.                                                                                                                                                        |
| *This document provides a summary of federal drinking water requirements; to ensure full compliance, please consult the federal regulations at 40 CFR 141 and any approved state requirements. |                                                                                                                                                                                                      |

## Public Health Benefits

|                                                               |                                                                                                                              |
|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Implementation of the Radionuclides Rule will result in . . . | Reduced uranium exposure for 620,000 persons, protection from toxic kidney effects of uranium, and a reduced risk of cancer. |
| Estimated impacts of the Radionuclides Rule include . . .     | Annual compliance costs of \$81 million.<br><br>Only 795 systems will have to install treatment.                             |

## Regulated Contaminants

| Regulated Radionuclide  | MCL      | MCLG |
|-------------------------|----------|------|
| Beta/photon emitters**  | 4mrem/yr | 0    |
| Gross alpha particle    | 15 pCi/L | 0    |
| Combined radium-226/228 | 5 pCi/L  | 0    |
| Uranium                 | 30µg/L   | 0    |

\*\*A total of 168 individual beta particle and photon emitters may be used to calculate compliance with the MCL.

## Critical Deadlines & Requirements

### For Drinking Water Systems

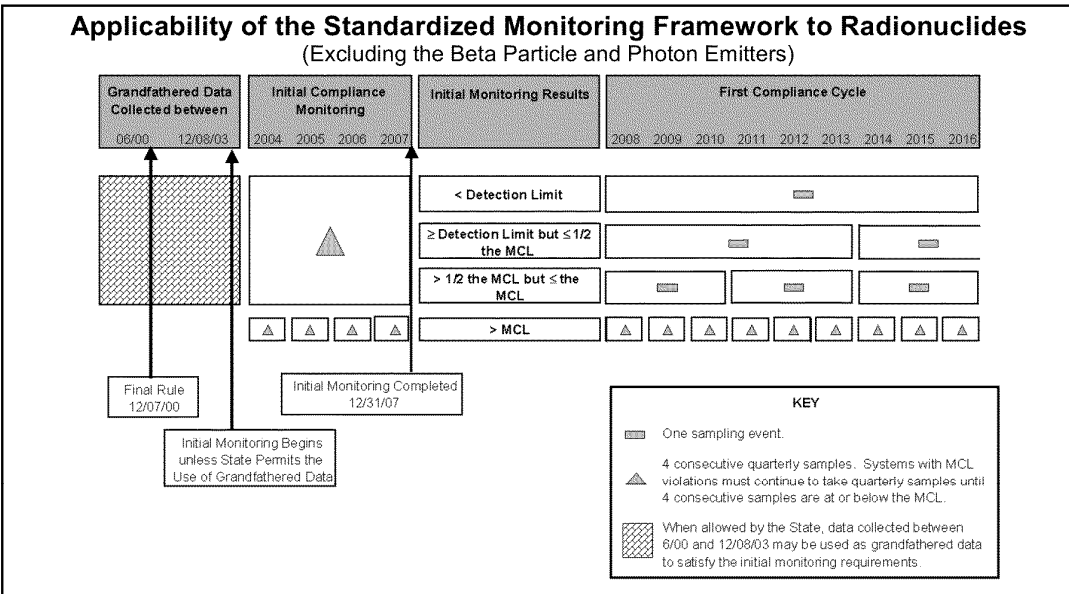
|                              |                                                                                                                                                            |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| June 2000 - December 8, 2003 | When allowed by the State, data collected between these dates may be eligible for use as grandfathered data (excluding beta particle and photon emitters). |
| December 8, 2003             | Systems begin initial monitoring under State-specified monitoring plan unless the State permits use of grandfathered data.                                 |
| December 31, 2007            | All systems must complete initial monitoring.                                                                                                              |

### For States

|                               |                                                                                                                                              |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| December 2000 - December 2003 | States work with systems to establish monitoring schedules.                                                                                  |
| December 8, 2000              | States should begin to update vulnerability assessments for beta photon and particle emitters and notify systems of monitoring requirements. |
| Spring 2001                   | EPA meets and works with States to explain new rules and requirements and to initiate adoption and implementation activities.                |
| December 8, 2002              | State submits primacy revision application to EPA. (EPA approves within 90 days.)                                                            |



| Monitoring Requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gross Alpha, Combined Radium-226/228, and Uranium (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Beta Particle and Photon Radioactivity (1)                                                                                                                                                                                                                    |
| Initial Monitoring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                               |
| Four consecutive quarters of monitoring.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No monitoring required for most CWSs. Vulnerable CWSs (2) must sample for: <ul style="list-style-type: none"><li>Gross beta: quarterly samples.</li><li>Tritium and Strontium-90: annual samples.</li></ul>                                                   |
| Reduced Monitoring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                               |
| If the average of the initial monitoring results for each contaminant is below the detection limit: One sample every 9 years.                                                                                                                                                                                                                                                                                                                                                                               | If the running annual average of the gross beta particle activity minus the naturally occurring potassium-40 activity is less than or equal to 50 pCi/L: One sample every 3 years.                                                                            |
| If the average of the initial monitoring results for each contaminant is greater than or equal to the detection limit, but less than or equal to one-half the MCL: One sample every 6 years.                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                               |
| If the average of the initial monitoring results for each contaminant is greater than one-half the MCL, but less than or equal to the MCL: One sample every 3 years.                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                               |
| Increased Monitoring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                               |
| A system with an entry point result above the MCL must return to quarterly sampling until 4 consecutive quarterly samples are below the MCL.                                                                                                                                                                                                                                                                                                                                                                | If gross beta particle activity minus the naturally occurring potassium-40 activity exceeds 50 pCi/L, the system must: <ul style="list-style-type: none"><li>Speciate as required by the State.</li><li>Sample at the initial monitoring frequency.</li></ul> |
| (1) All samples must be collected at each entry point to the distribution system.<br>(2) The rule also contains requirements for CWSs using waters contaminated by effluents from nuclear facilities.                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                               |
| Grandfathering of Data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                               |
| When allowed by the State, data collected between June, 2000 and December 8, 2003 may be used to satisfy the initial monitoring requirements if samples have been collected from: <ul style="list-style-type: none"><li>Each entry point to the distribution system (EPTDS).</li><li>The distribution system, provided the system has a single EPTDS.</li><li>The distribution system, provided the State makes a written justification explaining why the sample is representative of all EPTDS.</li></ul> |                                                                                                                                                                                                                                                               |



For additional information  
on the Radionuclides Rule

Call the Safe Drinking Water  
Hotline at 1-800-426-4791;  
visit the EPA Web site at  
<http://water.epa.gov/drink>.

**To:** Hernandez-Quinones, Samuel[Hernandez.Samuel@epa.gov]  
**From:** Christ, Lisa  
**Sent:** Fri 5/2/2014 6:29:20 PM  
**Subject:** FW: Materials for Radiation PAG Brief on May 5  
Briefing for PGrevatt\_SHQ 5-1\_LC.docx

...  
>>>  
Hi Sam,

I spoke with Eric last night about how best to go over the equations, etc with Peter. We agreed to move it to the an appendix and we'll offer Peter a quick tutorial if he wants. If he doesn't feel he needs it we'll go straight to the briefing. I made a few other minor wording changes too.

Thanks-

Lisa

**From:** Christ, Lisa  
**Sent:** Friday, May 02, 2014 2:27 PM  
**To:** Lopez-Carbo, Maria  
**Cc:** Hernandez-Quinones, Samuel; Ellis, Jerry; Burneson, Eric; Mason, Paula  
**Subject:** Materials for Radiation PAG Brief on May 5

Hi Maria,

Attached are the materials for Monday's pre-brief for Peter.

Thanks and have a great weekend!

Lisa

~~~~~

Lisa Christ, Acting Chief

Targeting and Analysis Branch

Office of Ground Water and Drinking Water

USEPA

1200 Pennsylvania Ave NW
Washington, DC 20460-0001
phone: 202.564.8354
fax: 202.564-3760

Mail Code: 4607M

To: Hernandez-Quinones, Samuel[Hernandez.Samuel@epa.gov]; Ellis, Jerry[Ellis.Jerry@epa.gov]
From: DeCair, Sara
Sent: Thur 9/25/2014 8:33:02 PM
Subject: Here is a nuclide list (and DRLs) from recent drill
Water Derived Response Level for 500 mrem.docx

::

This might serve as a good QA tool, too, for the DRLs you get – cheers, and thanks again for all your work on this! Talk to you via email next week!

S.

Sara D. DeCair

<http://www.epa.gov/radiation/rert/pags.html>

202-343-9108

****new office****

Room 1416 B in WJC West

To: Lopez-Carbo, Maria[Lopez-Carbo.Maria@epa.gov]
Cc: Hernandez-Quinones, Samuel[Hernandez.Samuel@epa.gov]; Ellis, Jerry[Ellis.Jerry@epa.gov]; Burneson, Eric[Burneson.Eric@epa.gov]; Mason, Paula[Mason.Paula@epa.gov]
From: Christ, Lisa
Sent: Fri 5/2/2014 6:26:47 PM
Subject: Materials for Radiation PAG Brief on May 5
Briefng for PGrevatt SHQ 5-1 LC.docx

;;
Hi Maria,

Attached are the materials for Monday's pre-brief for Peter.

Thanks and have a great weekend!

Lisa

~~~~~

Lisa Christ, Acting Chief

Targeting and Analysis Branch

Office of Ground Water and Drinking Water

USEPA

1200 Pennsylvania Ave NW  
Washington, DC 20460-0001  
phone: 202.564.8354  
fax: 202.564-3760

Mail Code: 4607M

**To:** Hernandez-Quinones, Samuel[Hernandez.Samuel@epa.gov]  
**From:** Christ, Lisa  
**Sent:** Wed 4/23/2014 1:23:11 PM  
**Subject:** rads tables  
rads PAG options.xlsx

..  
,,

~~~~~  
Lisa Christ, Acting Chief

Targeting and Analysis Branch

Office of Ground Water and Drinking Water

USEPA

1200 Pennsylvania Ave NW
Washington, DC 20460-0001
phone: 202.564.8354
fax: 202.564-3760

Mail Code: 4607M

To: Hernandez-Quinones, Samuel[Hernandez.Samuel@epa.gov]
From: Christ, Lisa
Sent: Mon 4/21/2014 9:44:51 PM
Subject: RE: checking in on Rads PAG briefing materials
Briefing for Eric Burneson LC.docx

.....
,,
Hi Sam,

Looks good. Attached are my edits/comments. Let me know if you have questions or concerns.

Thanks-

Lisa

From: Hernandez-Quinones, Samuel
Sent: Monday, April 21, 2014 4:37 PM
To: Christ, Lisa
Subject: RE: checking in on Rads PAG briefing materials

Revised file with Attachments included.

Sam

=====
Samuel Hernández Quiñones, P.E.
Environmental Engineer
Environmental Protection Agency
Office of Water
1200 Pennsylvania Ave. NW
Washington, DC 20460
202-564-1735

"USEPA Protecting Human Health and the Environment"

From: Christ, Lisa
Sent: Monday, April 21, 2014 3:02 PM
To: Hernandez-Quinones, Samuel
Subject: RE: checking in on Rads PAG briefing materials

Great thanks – I'll take a look

From: Hernandez-Quinones, Samuel
Sent: Monday, April 21, 2014 3:00 PM
To: Christ, Lisa
Subject: RE: checking in on Rads PAG briefing materials

Hi Lisa,

Please see attached. I first tried presenting this information in a Power Point format but it was not working for me. So I decided that at this stage it is better to use the briefing sheet and complement the discussion with the insertion the of the tables that were developed.

Here is the briefing sheet, the attachements mentioned in here are basicly an extract of the relevant tables. I am still working on the formating to make the tables look good, but here you get a feel of what we are doing. I will send the other attachements very soon.

Sam

From: Christ, Lisa
Sent: Monday, April 21, 2014 2:09 PM
To: Hernandez-Quinones, Samuel
Subject: checking in on Rads PAG briefing materials

Hi Sam,

I wanted to see how you're doing developing the briefing materials for tomorrow. With tomorrow being a cleanup day we won't have much time then to work on this. Let me know if you have questions or concerns.

Thanks-

Lisa

~~~~~

Lisa Christ, Acting Chief

Targeting and Analysis Branch

Office of Ground Water and Drinking Water

USEPA

1200 Pennsylvania Ave NW  
Washington, DC 20460-0001  
phone: 202.564.8354  
fax: 202.564-3760

Mail Code: 4607M

**To:** Altieri, Sonia[Altieri.Sonia@epa.gov]; Greene, Ashley[Greene.Ashley@epa.gov]; Wadlington, Christina[Wadlington.Christina@epa.gov]  
**From:** Loop, Travis  
**Sent:** Tue 11/29/2016 2:47:00 PM  
**Subject:** Fwd: EPA regulations after radioactive incidents

Travis Loop  
Communications Director for Water  
U.S. Environmental Protection Agency  
Phone: 202.870.6922  
Follow us on Twitter @EPAwater

Begin forwarded message:

**From:** "Spalding, Curt" <Spalding.Curt@epa.gov>  
**Date:** November 28, 2016 at 5:19:55 PM EST  
**To:** "Loop, Travis" <Loop.Travis@epa.gov>  
**Cc:** "Gutro, Doug" <Gutro.Doug@epa.gov>, "Williams, Wanda" <Williams.Wandai@epa.gov>  
**Subject:** FW: EPA regulations after radioactive incidents

#12

Regards,

Paul

617.918.1514

[EPA Region 1](#)



**From:** David Ball [mailto:[mailto:David.Ball@epa.gov](#)] Ex. 6 - Personal Privacy  
**Sent:** Monday, November 21, 2016 7:34 PM

**To:** Spalding, Curt <[Spalding.Curt@epa.gov](mailto:Spalding.Curt@epa.gov)>  
**Subject:** EPA regulations after radioactive incidents

Dear Mr. Spalding:

Please protect us, as your agency should, against dangerously increased levels of radiation in drinking water after radioactive incidents. I understand the EPA is considering expanding the exemptions. Please don't.

Sincerely,

David Ball

**To:** Altieri, Sonia[Altieri.Sonia@epa.gov]; Greene, Ashley[Greene.Ashley@epa.gov]; Wadlington, Christina[Wadlington.Christina@epa.gov]  
**From:** Loop, Travis  
**Sent:** Tue 11/29/2016 2:44:19 PM  
**Subject:** Fwd: R1 Radiation #2 FW: radiation

Travis Loop  
Communications Director for Water  
U.S. Environmental Protection Agency  
Phone: 202.870.6922  
Follow us on Twitter @EPAwater

Begin forwarded message:

**From:** "Spalding, Curt" <Spalding.Curt@epa.gov>  
**Date:** November 28, 2016 at 5:14:39 PM EST  
**To:** "Loop, Travis" <Loop.Travis@epa.gov>  
**Cc:** "Gutro, Doug" <Gutro.Doug@epa.gov>, "Williams, Wanda" <Williams.Wandai@epa.gov>  
**Subject:** R1 Radiation #2 FW: radiation

#2

Regards,

Paul

617.918.1514

EPA Region 1



**From:** Leona Klerer [mailto:[Ex. 6 - Personal Privacy](#)]  
**Sent:** Thursday, November 24, 2016 10:50 AM

**To:** Spalding, Curt <[Spalding.Curt@epa.gov](mailto:Spalding.Curt@epa.gov)>  
**Subject:** radiation

Please do not let the EPA increase levels of radiation in our water. As well as in food. No dumping in land fills.

Keep the levels of disposal high.

Thanks

Leona Klerer



**To:** Altieri, Sonia[Altieri.Sonia@epa.gov]; Greene, Ashley[Greene.Ashley@epa.gov]; Wadlington, Christina[Wadlington.Christina@epa.gov]  
**From:** Loop, Travis  
**Sent:** Tue 11/29/2016 2:44:33 PM  
**Subject:** Fwd: R1 Radiation #3 FW: For Ms. McCarthy's review: PAGs , radiation and EPA 900 Methods

Travis Loop  
Communications Director for Water  
U.S. Environmental Protection Agency  
Phone: 202.870.6922  
Follow us on Twitter @EPAwater

Begin forwarded message:

**From:** "Spalding, Curt" <Spalding.Curt@epa.gov>  
**Date:** November 28, 2016 at 5:15:02 PM EST  
**To:** "Loop, Travis" <Loop.Travis@epa.gov>  
**Cc:** "Gutro, Doug" <Gutro.Doug@epa.gov>, "Williams, Wanda" <Williams.Wandai@epa.gov>  
**Subject:** R1 Radiation #3 FW: For Ms. McCarthy's review: PAGs , radiation and EPA 900 Methods

#3

Regards,

Paul

617.918.1514

EPA Region 1



**From:** Carmine Vasile [mailto:[Ex. 6 - Personal Privacy](#)]

Sent: Wednesday, November 23, 2016 3:16 PM

To: Vincent <vimbesi@lawicm.com>; Paul Napoli, Esq. <pnapoli@napolilaw.com>

Cc: SANDRA ARCANGELO <Ex. 6 - Personal Privacy>; Gerald Ottavino

<Ex. 6 - Personal Privacy>; Ethan Irwin <Ex. 6 - Personal Privacy>; <Ex. 6 - Personal Privacy>

Dianne D'Arrigo <dianed@nirs.org>; ldumais@peer.org; info <info@peer.org>; Lenny

Siegel <Ex. 6 - Personal Privacy>; Bill Perks <Ex. 6 - Personal Privacy>; Laura Perks

<phairlaura@optonline.net>; Judy Donnenfeld, Esq. <Ex. 6 - Personal Privacy>; marcelli

<marcelli@nysenate.gov>; raiaa@assembly.state.ny.us; senator@schumer.senate.gov;

severt@suffolkcountyny.gov; claudia@licaws.org; Terrie Barrie

<Ex. 6 - Personal Privacy>; Spalding, Curt <Spalding.Curt@epa.gov>; Enck, Judith

<Enck.Judith@epa.gov>; Joan Tibor McNeal <Ex. 6 - Personal Privacy>; Rodrigues, Cecil

<rodrigues.cecil@epa.gov>; Mccarthy, Gina <McCarthy.Gina@epa.gov>; McTeerToney,

Heather <McTeerToney.Heather@epa.gov>; Kaplan, Robert <kaplan.robert@epa.gov>;

Donna Wexler <Ex. 6 - Personal Privacy>; Tom Brinkman <Ex. 6 - Personal Privacy>; Gene

Altman <altman1@optonline.net>; Curry, Ron <Curry.Ron@epa.gov>; Hague, Mark

<Hague.Mark@epa.gov>; Frank Germano <Ex. 6 - Personal Privacy>; McGrath, Shaun

<McGrath.Shaun@epa.gov>; Strauss, Alexis <Strauss.Alexis@epa.gov>; Greg Fischer

<Ex. 6 - Personal Privacy>; McLerran, Dennis <mclerran.dennis@epa.gov>

Subject: Fw: For Ms. McCarthy's review: PAGs , radiation and EPA 900 Methods

Dear Vincent & Paul: Please amend our class action against Grumman to reflect the following section in the email below because it confirms my complaints that the Navy and Grumman are illegally using EPA Method 900 for both drinking water & plume-water testing to conceal both Gross Alpha & Gross Beta violations: ***Thus, the EPA scientists not simply expressed their fears of the PAGs being misused leaving Americans at risk to dangerous radiation, but they likewise raised serious concerns to me about the US EPA's unscientific usage of the "EPA Finished Drinking Water 900 Methods" on raw, untreated water sources suspected of containing radiation, which is what occurred at Uniontown IEL.***

The IEL radio-toxic waste timeline @ <http://cclt.starksummit.org/> reads like Grumman's, BNL's and other LI CERCLA landfills -- and it now seems every water company in the nation, including every NYS water company, BNL, the Navy & Grumman are illegally using EPA Method 900. They are also illegally passing off 50 pCi/L instead of 4 mrem/yr as the Gross Beta MCL, as you can see from the test results included in my July 2016 Complaint to the Suffolk County Legislature & D.A. Detective Severino @ <http://www.gfxtechnology.com/SCL.pdf>.

Yours truly,

Dr. Carmine F. Vasile,

Grumman's former Inventor of the Year 1992

60 Herbert Circle

Patchogue, NY 11772

631-758-6271

---

**From:** Ex. 6 - Personal Privacy  
**Sent:** Tuesday, November 22, 2016 11:52 AM  
**To:** Ex. 6 - Personal Privacy  
**Subject:** Fwd: For Ms. McCarthy's review: PAGs , radiation and EPA 900 Methods

Hello Dr. Vasile,

Would love to chat some time at your convenience. I have worked on the 900 concerns for decades now. See our website in the letter to Admin. McCarthy.

Regards,

Chris Borello 330-499-5207

-----Original Message-----

**From:** crborello <Ex. 6 - Personal Privacy>  
**To:** mccarthy.gina <mccarthy.gina@epa.gov>  
**Cc:** ridenour.steve <ridenour.steve@epa.gov>; anderson.robinm <anderson.robinm@epa.gov>; walker.stuart <walker.stuart@epa.gov>; Schuver.Henry <Schuver.Henry@epamail.epa.gov>; lennysiegel <Ex. 6 - Personal Privacy>; edwardsm <Ex. 6 - Personal Privacy>; ccwits <Ex. 6 - Personal Privacy>; mjroll <Ex. 6 - Personal Privacy>; chuckosborne <Ex. 6 - Personal Privacy>; damsel16 <Ex. 6 - Personal Privacy>; GColeridge <GColeridge@afsc.org>; greg.m.schwartz <Ex. 6 - Personal Privacy>; dianed <dianed@nirs.org>; danny <danny@350.org>; danni <danni@pogo.org>; judibrightwell <Ex. 6 - Personal Privacy>; tammyproctor <Ex. 6 - Personal Privacy>; scribman33 <Ex. 6 - Personal Privacy>; rachel <rachel@ecobooks.com>; ann <ann@freshwaterfuture.org>; jrichards13 <jrichards13@neo.rr.com>; grapevinerealestate <grapevinerealestate@roadrunner.com>; EdJulieR <Ex. 6 - Personal Privacy>; joreilly <Ex. 6 - Personal Privacy>; ceh65471 <Ex. 6 - Personal Privacy>; hughes <Ex. 6 - Personal Privacy>; fight848 <Ex. 6 - Personal Privacy>; glassart <glassart@fortyfrogfarm.com>  
**Sent:** Tue, Nov 22, 2016 11:26 am  
**Subject:** Fwd: For Ms. McCarthy's review: PAGs , radiation and EPA 900 Methods

-----Original Message-----

From: crborello <Ex. 6 - Personal Privacy>  
To: crborello <Ex. 6 - Personal Privacy>  
Sent: Tue, Nov 22, 2016 11:09 am  
Subject: For Ms. McCarthy's review: PAGs , radiation and EPA 900 Methods

Subject: **PAGs & US EPA Finished Drinking Water 900 Method being used on raw untreated water suspected of containing radiation**

**US EPA Administrator Gina McCarthy**

**Washington D.C.**

**Dear Ms. McCarthy,**

**Please kindly review the below comments. *They are based primarily upon your agency's own former top radiation experts and other top US government radiation experts I have consulted with over the decades.***

In approx. 2003, deeply concerned technical experts within your agency had personally warned me about the **PAGs** being proposed even back then. I strongly believe they shared this with me because they were already acutely aware of the deeply troubling situation regarding radiation and testing at our Uniontown IEL Superfund site in Ohio. In this same time frame in the mid 2000s, after reviewing the US EPA's/corporations' data base on IEL, top independent university radiation experts indeed estimated the IEL toxic landfill may contain up to **1/2 ton of deadly Plutonium and other dangerous radiation** isotopes, but may have been underestimated given outdated, questionable methods permitted by US EPA's NAREL. However, apparently due to the perceived severe politics/pressures involved, and thanks to US Region 5 bowing to the corporations' wishes, even the most basic clean up of mere institutional controls were killed off that your agency *had promised the community would be implemented to help mitigate the outward migration of toxins by isolating the hundreds of tons of waste perched just a few feet above the water table linked to the area's sole source aquifer system serving up to 600,000 Ohioans in several counties. Instead this Superfund Site continues to freely flush to this day..*

Ms. McCarthy, I believe that those same US EPA experts **who had long ago shared their worries about the PAGs being implemented all too well understood the "gaming" of the rad testing that had already been going on for years. .... - i.e, so called "compliance monitoring" - using the US EPA "Finished Drinking Water 900 Methods" - methods meant for finished, treated water**

systems and they said was never meant to be used on raw, untreated water sources found like at IEL. Please see numerous letters documenting these serious deviations away from what is considered to be best available science in letters to EPA found on our group's website:  
<http://cclt.starksummit.org>

Thus, the EPA scientists not simply expressed their fears of the PAGs being misused leaving Americans at risk to dangerous radiation, *but they likewise raised serious concerns to me about the US EPA's unscientific usage of the "EPA Finished Drinking Water 900 Methods" on raw, untreated water sources suspected of containing radiation, which is what occurred at Uniontown IEL.*

***Therefore, I am writing you today to not only ask that you NOT sign off on the PAGs , but to please issue a change in policy immediately, before this Administration ceases, to once and for all prohibit the US EPA from allowing/prescribing/condoning the continued usage of the EPA Finished Drinking Water 900 Methods whenever raw, untreated water suspected of containing radiation is involved.***

***Important note:*** While those same EPA whistle blowers had thought by 2000 they had at least stopped this practice of using the 900 on raw, untreated water after this was erroneously done to the Uniontown IEL Superfund Site, we have outrageously come to learn in recent years in working on fracking issues that US EPA continues to apparently suggest/permit others consulting the EPA to use the Finished Drinking Water 900 Methods on raw fracking waste water, despite the scientific evidence going against this being allowed, if in fact, there is a desire to learn the true amounts of water soluble radium 226 present **in the fracking wastes**. Experts consulted over the years advised me that they believed that while most people know that Plutonium is deadly, many do not understand that given the way **the water soluble radium** can be metabolized = bone seeking, even more in the body than Plutonium, which is somewhat excreted, **It is essential that EPA take these steps immediately to insure credible data is gathered given the vast amounts of fracking wastes being discharged daily into our US communities in Ohio, PA., W. Virginia, New York and elsewhere, or many more IEL landfills will occur.**

Sincerely,

Chris Borello, President , Concerned Citizens of Lake Twp.

Uniontown IEL Superfund Site, Ohio

Re:

-----Original Message-----

From: Diane D'Arrigo - NIRS <nirs@nirs.org>

To: crborello <Ex. 6 - Personal Privacy>

Sent: Mon, Nov 21, 2016 7:23 pm

Subject: Tell EPA - Stop Dangerous Radioactive Drinking Water!

NUCLEAR INFORMATION AND RESOURCE SERVICE • 6930 Carroll Ave., Ste. 340 • Takoma Park,  
MD, 20912 • (301) 270-6477 • [www.nirs.org](http://www.nirs.org)  
November 21, 2016

Dear Friend,

In July, thousands of us took action to stop dangerous new radiation guidance for drinking water. The EPA refused to listen, and now this guidance could be approved anytime--unless we act now!

**Environmental Protection Agency (EPA) Administrator Gina McCarthy is on the verge of approving radiation levels hundreds and thousands of times higher than currently allowed in drinking water and at cleaned-up Superfund sites.** These mis-named "Protective" Action Guides for Drinking Water (Water PAGs) dramatically INCREASE allowable radioactivity in water. Enormous levels of invisible but deadly radioactive contamination would be permitted in drinking water for weeks, months or even years after a nuclear accident or "incident." The PAGs *are not* for the immediate phase after a radioactive release but *the next phase*--which could last for years--when local residents may return home to contaminated water and not know the danger.

**Take action now: Protect drinking water from dangerous radiation levels!**

There are two quick actions to take today:

1. **Tell your EPA Regional Administrator (see map and list below)** to ask EPA Administrator Gina McCarthy why she is raising radiation levels allowed in drinking water.
2. **Send a message to Administrator McCarthy** yourself asking her not to approve these dangerous radiation levels in drinking water.

We have stopped PAGs like these from being approved before--and we can do it again. EPA insiders attempted to push these dangerous guides through in the waning days of the Bush administration, and public pressure like this got the agency to pull them back. Now we have to do it again!

**Click here to take action now.**

Thanks for all you do!

Diane D'Arrigo

Radioactive Waste Project Director

ED\_001057\_00004830

## **More Information**

**The PAGs protect the polluters from liability, not the public from radiation.** CHECK out this [NBC4 News Story](#).

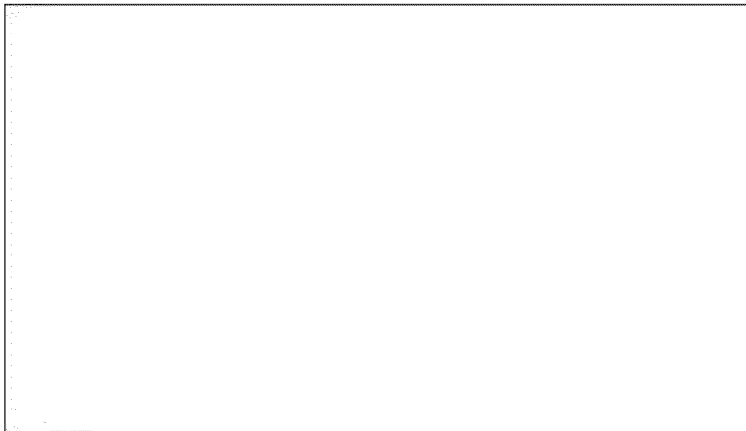
**These PAGs are a bad legacy.** Approving them now is a deceptive way to circumvent the Safe Drinking Water Act, Superfund cleanup levels, and EPA's history of limiting the allowable risk of cancer to 1 in a million people exposed (or at most 1 in 10,000 in worst-case scenarios).

The PAGs don't just affect water!

- They markedly relax long-term cleanup standards.
- They set very high and outdated radiation levels allowable in food.
- They eliminate requirements to evacuate people vulnerable to high radiation doses to the thyroid and skin.
- They eliminate limits on lifetime whole body radiation exposures.
- And they recommend dumping radioactive waste in municipal garbage dumps not designed for such waste.

Outrageously, EPA is expanding the kinds of radioactive 'incidents' that would be allowed to give off these dangerously high levels and doses. PAGs originally applied to huge nuclear disasters like the nuclear power meltdowns at Fukushima or a dirty bomb BUT NOW they could ALSO apply to less dramatic releases from nuclear power reactors or radio-pharmaceutical spills, nuclear transport accidents, fires or any radioactive "incident" that "warrant[s] consideration of protective action."

## **EPA REGIONS and REGIONAL ADMINISTRATORS**



**Region 1 Administrator Curt**

**Spalding**

(617) 918-1010

[spalding.curt@epa.gov](mailto:spalding.curt@epa.gov);

**Region 2 Administrator Judith Enck**

(212) 637-5000

[enck.judith@epa.gov](mailto:enck.judith@epa.gov)

**Region 3 Administrator Cecil Rodrigues**

(215) 814-2683

[Rodrigues.cecil@Epa.gov](mailto:Rodrigues.cecil@Epa.gov)

**Region 4 Administrator Heather McTeer Toney**

(404) 562-9900

[McTeertoney.heather@Epa.gov](mailto:McTeertoney.heather@Epa.gov)

**Region 5 Acting Administrator Robert A. Kaplan**

(312) 886-3000

[Kaplan.robert@Epa.gov](mailto:Kaplan.robert@Epa.gov)

**Region 6 Administrator Ron Curry**

(214) 665-2100

[Curry.ron@Epa.gov](mailto:Curry.ron@Epa.gov)

**Region 7 Administrator Mark Hague**

(913) 551-7006

[Hague.mark@Epa.gov](mailto:Hague.mark@Epa.gov)

**Region 8 Administrator Shaun McGrath**

(303) 312-6532

[McGrath.shaun@Epa.gov](mailto:McGrath.shaun@Epa.gov)

**Region 9 Acting Administrator Alexis Strauss**

(415) 947-8000

[Strauss.alexis@Epa.gov](mailto:Strauss.alexis@Epa.gov)

**Region 10 Administrator Dennis McLerran**

(206) 553-1234

[mclerran.dennis@epa.gov](mailto:mclerran.dennis@epa.gov)

For more info, contact Diane D'Arrigo at NIRS: [dianed@nirs.org](mailto:dianed@nirs.org) or 301-270-6477

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You received this message because you are subscribed to the Google Groups "Nofracohio" group.

To unsubscribe from this group and stop receiving emails from it, send an email to

[nofracohio+unsubscribe@googlegroups.com](mailto:nofracohio+unsubscribe@googlegroups.com).

For more options, visit <https://groups.google.com/d/optout>.



**To:** Altieri, Sonia[Altieri.Sonia@epa.gov]; Greene, Ashley[Greene.Ashley@epa.gov]; Wadlington, Christina[Wadlington.Christina@epa.gov]  
**From:** Loop, Travis  
**Sent:** Tue 11/29/2016 2:44:47 PM  
**Subject:** Fwd: R1 Radiation #4 FW: PAG levels

Travis Loop  
Communications Director for Water  
U.S. Environmental Protection Agency  
Phone: 202.870.6922  
Follow us on Twitter @EPAWater

Begin forwarded message:

**From:** "Spalding, Curt" <Spalding.Curt@epa.gov>  
**Date:** November 28, 2016 at 5:15:27 PM EST  
**To:** "Loop, Travis" <Loop.Travis@epa.gov>  
**Cc:** "Gutro, Doug" <Gutro.Doug@epa.gov>, "Williams, Wanda" <Williams.Wandai@epa.gov>  
**Subject:** R1 Radiation #4 FW: PAG levels

#4

Regards,

Paul

617.918.1514

[EPA Region 1](#)



**From:** Pam McDonald [mailto:[Ex. 6 - Personal Privacy](#)]  
**Sent:** Tuesday, November 22, 2016 8:22 PM

**To:** Spalding, Curt <[Spalding.Curt@epa.gov](mailto:Spalding.Curt@epa.gov)>  
**Subject:** PAG levels

Why is Gina McCarthy instituting new Water PAG's that do not protect the public from radioactive contamination in drinking water?

Pam McDonald

Ex. 6 - Personal Privacy

**Ex. 6 - Personal Privacy**

**To:** Altieri, Sonia[Altieri.Sonia@epa.gov]; Wadlington, Christina[Wadlington.Christina@epa.gov];  
Greene, Ashley[Greene.Ashley@epa.gov]  
**From:** Loop, Travis  
**Sent:** Tue 11/29/2016 2:45:05 PM  
**Subject:** Fwd: R1 Radiation #5 FW: Proposed PAG's for Drinking Water

Travis Loop  
Communications Director for Water  
U.S. Environmental Protection Agency  
Phone: 202.870.6922  
Follow us on Twitter @EPAwater

Begin forwarded message:

**From:** "Spalding, Curt" <Spalding.Curt@epa.gov>  
**Date:** November 28, 2016 at 5:16:06 PM EST  
**To:** "Loop, Travis" <Loop.Travis@epa.gov>  
**Cc:** "Gutro, Doug" <Gutro.Doug@epa.gov>, "Williams, Wanda" <Williams.Wandai@epa.gov>  
**Subject:** R1 Radiation #5 FW: Proposed PAG's for Drinking Water

#5

Regards,

Paul

617.918.1514  
EPA Region 1

-----Original Message-----

From: Schuyler Gould [mailto:[Schuyler.Gould@epa.gov](mailto:Schuyler.Gould@epa.gov)] Ex. 6 - Personal Privacy  
Sent: Tuesday, November 22, 2016 11:41 AM  
To: Spalding, Curt <Spalding.Curt@epa.gov>  
Subject: Proposed PAG's for Drinking Water

Dear Mr. Spaulding,

Protective Action Guides for Drinking Water are designed to protect the public from drinking water contaminants. The old guidelines for radiological contaminants were based on sound science, but which in the meantime has been shown to be not restrictive enough regarding the sensitivity of natural systems to these contaminants--witness the ongoing degradation of the forest floor ecologies around both Chernobyl and Fukushima as well the insect and bird populations. More importantly, statistics on the vulnerability of the general

population to specific radiation exposures do not recognize that children have been shown to be more vulnerable to the vagaries of radiological contamination by many factors.

The old guidelines should be being strengthened, not weakened, as is being currently proposed. The only logical reason to weaken these standards can be to protect the industries tasked with keeping these contaminants out of the environment. If the claim that it is too costly to take the necessary measures to do so, then perhaps the logical conclusion to the argument is to stop making them in the first place. It is not to weaken the standards to make the industry more profitable at the expense of the health and welfare of the environment and its inhabitants.

Thank you,  
Schuyler Gould  
Barre, VT

Sent from my iPad

**To:** Altieri, Sonia[Altieri.Sonia@epa.gov]; Greene, Ashley[Greene.Ashley@epa.gov]; Wadlington, Christina[Wadlington.Christina@epa.gov]  
**From:** Loop, Travis  
**Sent:** Tue 11/29/2016 2:45:33 PM  
**Subject:** Fwd: R1 Radiation #6 FW: Allowed radiation levels in drinking water

Travis Loop  
Communications Director for Water  
U.S. Environmental Protection Agency  
Phone: 202.870.6922  
Follow us on Twitter @EPAwater

Begin forwarded message:

**From:** "Spalding, Curt" <Spalding.Curt@epa.gov>  
**Date:** November 28, 2016 at 5:16:27 PM EST  
**To:** "Loop, Travis" <Loop.Travis@epa.gov>  
**Cc:** "Gutro, Doug" <Gutro.Doug@epa.gov>, "Williams, Wanda" <Williams.Wandai@epa.gov>  
**Subject:** R1 Radiation #6 FW: Allowed radiation levels in drinking water

#6

Regards,

Paul

617.918.1514

EPA Region 1



**From:** Kenneth Ruby [mailto:[kenneth.ruby@epa.gov](mailto:kenneth.ruby@epa.gov)] Ex. 6 - Personal Privacy  
**Sent:** Tuesday, November 22, 2016 11:31 AM

**To:** Spalding, Curt <[Spalding.Curt@epa.gov](mailto:Spalding.Curt@epa.gov)>  
**Subject:** Allowed radiation levels in drinking water

To:

Curt Spalding, EPA Regional Administrator

Dear Mr. Spalding:

Please ask EPA Administrator Gina McCarthy why she is raising radiation levels allowed in drinking water.

Thank you for your attention.

Sincerely,

Kenneth Ruby

Salem NH

**To:** Wadlington, Christina[Wadlington.Christina@epa.gov]; Greene, Ashley[Greene.Ashley@epa.gov]; Altieri, Sonia[Altieri.Sonia@epa.gov]  
**From:** Loop, Travis  
**Sent:** Tue 11/29/2016 2:45:48 PM  
**Subject:** Fwd: R1 Radiation #7 FW: EPA radiation levels in drinking water

Travis Loop  
Communications Director for Water  
U.S. Environmental Protection Agency  
Phone: 202.870.6922  
Follow us on Twitter @EPAwater

Begin forwarded message:

**From:** "Spalding, Curt" <Spalding.Curt@epa.gov>  
**Date:** November 28, 2016 at 5:17:07 PM EST  
**To:** "Loop, Travis" <Loop.Travis@epa.gov>  
**Cc:** "Gutro, Doug" <Gutro.Doug@epa.gov>, "Williams, Wanda" <Williams.Wandai@epa.gov>  
**Subject:** R1 Radiation #7 FW: EPA radiation levels in drinking water

#7

Regards,

Paul

617.918.1514  
EPA Region 1

-----Original Message-----

From: Regi Teasley [mailto:[Regi.Teasley@epa.gov](mailto:Regi.Teasley@epa.gov)] **Ex. 6 - Personal Privacy**  
Sent: Tuesday, November 22, 2016 9:50 AM  
To: Spalding, Curt <Spalding.Curt@epa.gov>  
Subject: EPA radiation levels in drinking water

Regional Administrator Spalding,

I am writing to urge you to dissuade EPA administrator McCarthy from instituting PAGs. These allow increased radiation in our drinking water and protect polluters from accountability.

Let radioactive water be served in EPA headquarters for several years before this decision is taken. If no ill effects result, then revisit the question.

The Obama administration pretends to be respectful of science but as you well know, it privileges the interests of corporate polluters over that of the populace. This is shameful.  
Thank you for hearing my message.

Regi Teasley, Ph.D.  
Ithaca, NY

"Love the animals, love the plants, love everything. If you love everything, you will perceive the divine mystery in things." Dostoyevsky.



**To:** Altieri, Sonia[Altieri.Sonia@epa.gov]; Wadlington, Christina[Wadlington.Christina@epa.gov];  
Greene, Ashley[Greene.Ashley@epa.gov]  
**From:** Loop, Travis  
**Sent:** Tue 11/29/2016 2:46:04 PM  
**Subject:** Fwd: R1 Radiation #8 FW: DON'T DO IT!!

Travis Loop  
Communications Director for Water  
U.S. Environmental Protection Agency  
Phone: 202.870.6922  
Follow us on Twitter @EPAWater

Begin forwarded message:

**From:** "Spalding, Curt" <Spalding.Curt@epa.gov>  
**Date:** November 28, 2016 at 5:17:29 PM EST  
**To:** "Loop, Travis" <Loop.Travis@epa.gov>  
**Cc:** "Gutro, Doug" <Gutro.Doug@epa.gov>, "Williams, Wanda" <Williams.Wandai@epa.gov>  
**Subject:** R1 Radiation #8 FW: DON'T DO IT!!

#8

Regards,

Paul

617.918.1514

EPA Region 1



**From:** Lillia Frantin [mailto:[Ex. 6 - Personal Privacy](#)]  
**Sent:** Tuesday, November 22, 2016 8:02 AM

**To:** Spalding, Curt <[Spalding.Curt@epa.gov](mailto:Spalding.Curt@epa.gov)>  
**Subject:** DON'T DO IT!!

To the EPA and its Rep Curt Spalding,

Your responsibility is to use the best science available and PROTECT OUR ENVIRONMENT, PROTECT WE THE PEOPLE.....DO NOT LOWER THE EPA STANDARDS for allowable radioactive levels in our DRINKING WATER!!!! This is pure insanity & a terrible sign of what has become increasingly OBVIOUS TO WE THE PEOPLE...PROFIR+T first, last & always...The People and our FUTURE BE DAMNED.

Shame on you all for even considering this action....DO WE REALLY THINK WE CAN WITHSTAND MORE FUKUSHIMA'S????

You will see massive reaction once this gets out into the public...and it will. DO NOT DO THIS. If anything, concentrate on SHUTTING PILGRIM, not wasting precious time & resources on giving more green lights to the filthy, dangerous, wasteful AND UNNECESSARY NUKE POWER INDUSTRY!

PROTECT US!

Lillia Frantin and Herb edwards

Ex. 6 - Personal Privacy

CAPE COD< MA 02556

**To:** Altieri, Sonia[Altieri.Sonia@epa.gov]; Greene, Ashley[Greene.Ashley@epa.gov]; Wadlington, Christina[Wadlington.Christina@epa.gov]  
**From:** Loop, Travis  
**Sent:** Tue 11/29/2016 2:46:20 PM  
**Subject:** Fwd: R1 Radiation #9 FW: Drinking radioactive water is a serious threat to the public's health , safety and welfare.

Travis Loop  
Communications Director for Water  
U.S. Environmental Protection Agency  
Phone: 202.870.6922  
Follow us on Twitter @EPAwater

Begin forwarded message:

**From:** "Spalding, Curt" <Spalding.Curt@epa.gov>  
**Date:** November 28, 2016 at 5:18:46 PM EST  
**To:** "Loop, Travis" <Loop.Travis@epa.gov>  
**Cc:** "Gutro, Doug" <Gutro.Doug@epa.gov>, "Williams, Wanda" <Williams.Wandai@epa.gov>  
**Subject:** R1 Radiation #9 FW: Drinking radioactive water is a serious threat to the public's health , safety and welfare.

Travis, #9 does not have any content in the body of the email. The note is solely in the subject line

Regards,

Paul

617.918.1514

EPA Region 1



**From:** varda sootytern.com [mailto:Ex. 6 - Personal Privacy]

**Sent:** Tuesday, November 22, 2016 2:11 AM

**To:** Spalding, Curt <[Spalding.Curt@epa.gov](mailto:Spalding.Curt@epa.gov)>

**Subject:** Drinking radioactive water is a serious threat to the public's health , safety and welfare.

**To:** Greene, Ashley[Greene.Ashley@epa.gov]; Wadlington, Christina[Wadlington.Christina@epa.gov]; Altieri, Sonia[Altieri.Sonia@epa.gov]  
**From:** Loop, Travis  
**Sent:** Tue 11/29/2016 2:46:34 PM  
**Subject:** Fwd: R1 Radiation #10 FW: Protective Action Guides for Drinking Water

Travis Loop  
Communications Director for Water  
U.S. Environmental Protection Agency  
Phone: 202.870.6922  
Follow us on Twitter @EPAwater

Begin forwarded message:

**From:** "Spalding, Curt" <Spalding.Curt@epa.gov>  
**Date:** November 28, 2016 at 5:19:06 PM EST  
**To:** "Loop, Travis" <Loop.Travis@epa.gov>  
**Cc:** "Gutro, Doug" <Gutro.Doug@epa.gov>, "Williams, Wanda" <Williams.Wandai@epa.gov>  
**Subject:** R1 Radiation #10 FW: Protective Action Guides for Drinking Water

#10

Regards,

Paul

617.918.1514

EPA Region 1



**From:** Paula Sharaga [mailto:[Paula.Sharaga@epa.gov](mailto:Paula.Sharaga@epa.gov)] Ex. 6 - Personal Privacy  
**Sent:** Monday, November 21, 2016 9:49 PM

**To:** Spalding, Curt <Spalding.Curt@epa.gov>  
**Subject:** Protective Action Guides for Drinking Water

The following information was sent to me by the Nuclear Information and Research Service:

The proposed "Protective Action Guides" for Drinking Water (Water PAGs) would permit enormous levels of invisible but deadly radioactive contamination in drinking water for weeks, months or even years after a nuclear accident or "incident."

EPA is recommending allowable radiation levels hundreds and thousands of times higher than currently allowed in drinking water and at cleaned-up Superfund sites.

**Please ask EPA Administrator Gina McCarthy why she is raising radiation levels allowed in drinking water. Why is she promoting this outrageous risk to our health and natural resources.**

Thank you,

Paula Sharaga

Ex. 6 - Personal Privacy

Cambridge, MA 02139

**To:** Altieri, Sonia[Altieri.Sonia@epa.gov]; Wadlington, Christina[Wadlington.Christina@epa.gov];  
Greene, Ashley[Greene.Ashley@epa.gov]  
**From:** Loop, Travis  
**Sent:** Tue 11/29/2016 2:46:48 PM  
**Subject:** Fwd: R1 Radiation #11 FW: PAGs

Travis Loop  
Communications Director for Water  
U.S. Environmental Protection Agency  
Phone: 202.870.6922  
Follow us on Twitter @EPAwater

Begin forwarded message:

**From:** "Spalding, Curt" <Spalding.Curt@epa.gov>  
**Date:** November 28, 2016 at 5:19:28 PM EST  
**To:** "Loop, Travis" <Loop.Travis@epa.gov>  
**Cc:** "Gutro, Doug" <Gutro.Doug@epa.gov>, "Williams, Wanda" <Williams.Wandai@epa.gov>  
**Subject:** R1 Radiation #11 FW: PAGs

#11

Regards,

Paul

617.918.1514

EPA Region 1



**From:** Edith Griffin [mailto:[Ex. 6 - Personal Privacy](#)]  
**Sent:** Monday, November 21, 2016 7:46 PM

**To:** Spalding, Curt <[Spalding.Curt@epa.gov](mailto:Spalding.Curt@epa.gov)>  
**Subject:** PAGs

Dear Mr. Spalding --

I urge you to reject the so-called PAGs, which in fact are UN-protective action guides that favor polluters and don't protect the public from radiation. From what I understand, they are a deceptive way to circumvent the Safe Drinking Water Act, Superfund Cleanup levels, and the EPA's history of limiting cancer risk to one in a million people exposed. They must be rejected. Please do your job and protect citizens from harmful doses of radiation.

These so-called PAGs relax long-term cleanup standards, allow high and unsafe radiation levels in food, eliminate requirements to evacuate people in order to protect them from radiation that could harm their thyroid glands or their skin, and eliminate limits on lifetime whole-body radiation exposure. This is completely unacceptable.

The so-called PAGs even recommend dumping radioactive waste in municipal garbage dumps with no protections in place. What kind of an idiotic strategy is that? I'm fortunate not to live near a municipal dump, but a lot of people and their children would be adversely affected by this, and it would be impossibly difficult and costly to remove the radioactive material after it got mixed in with all the other trash in the dump. Come on.

Why is the EPA abandoning its mandate of protecting people and the environment from harm? Nuclear reactors, nuclear transport, and small-scale nuclear accidents have got to be tightly regulated, or money-grubbing business interests will play fast and loose with public safety. We know what the guiding principle of big energy companies is: make more money and never mind the consequences to other people.

Do your job. Reject the so-called PAGs.

Thank you.



Edith Griffin

Massachusetts voter

Tue Nov 22 12:11:34 EST 2016  
Leavy, Jacqueline@epamail.epa.gov  
FW: For Ms. McCarthy's review: PAGs , radiation and EPA 900 Methods  
To: CMS.OEX@epamail.epa.gov

---

From: crborello@aol.com [mailto:Ex 6 - Personal Privacy]  
Sent: Tuesday, November 22, 2016 11:26 AM  
To: McCarthy, Gina <McCarthy.Gina@epa.gov>  
Cc: Ridenour, Steve <Ridenour.Steve@epa.gov>; Anderson, RobinM <Anderson.RobinM@epa.gov>; Walker, Stuart <Walker.Stuart@epa.gov>; Schuver, Henry <Schuver.Henry@epa.gov>; Ex 6 - Personal Privacy; Marc Edwards <Ex 6 - Personal Privacy>; Ex 6 - Personal Privacy; r, Ex 6 - Personal Privacy; chuckosborne@neo.rr.com; Ex 6 - Personal Privacy; GColeridge@afsc.org; Ex 6 - Personal Privacy; dianed@nirs.org; danny@350.org; danni@pogo.org; Ex 6 - Personal Privacy; Ex 6 - Personal Privacy; Ex 6 - Personal Privacy; rachel@ecobooks.com; ann@freshwaterfuture.org; jrichards13@neo.rr.com; grapevinerealestate@roadrunner.com; Ex 6 - Personal Privacy; Ex 6 - Personal Privacy; ceh65471@windstream.net; hughes@ovis.net; Ex 6 - Personal Privacy; glassart@fortyfrogfarm.com  
Subject: Fwd: For Ms. McCarthy's review: PAGs , radiation and EPA 900 Methods

-----Original Message-----  
From: crborello [mailto:Ex 6 - Personal Privacy]  
To: crborello [mailto:Ex 6 - Personal Privacy]  
Sent: Tue, Nov 22, 2016 11:09 am  
Subject: For Ms. McCarthy's review: PAGs , radiation and EPA 900 Methods

Subject: **PAGs & US EPA Finished Drinking Water 900 Method being used on raw untreated water suspected of containing radiation**

US EPA Administrator Gina McCarthy

Washington D.C.

Dear Ms. McCarthy,

Please kindly review the below comments. *They are based primarily upon your agency's own former top radiation experts and other top US government radiation experts I have consulted with over the decades.*

In approx. 2003, deeply concerned technical experts within your agency had personally warned me about the **PAGs** being proposed even back then. I strongly believe they shared this with me because they were already acutely aware of the deeply troubling situation regarding radiation and testing at our Uniontown IEL Superfund site in Ohio. In this same time frame in the mid 2000s, after reviewing the US EPA's/corporations' data base on IEL, top independent university radiation experts indeed estimated the IEL toxic landfill may contain up to **1/2 ton of deadly Plutonium and other dangerous radiation** isotopes, but may have been underestimated given outdated, questionable methods permitted by US EPA's NAREL. However, apparently due to the perceived severe politics/pressures involved, and thanks to US Region 5 bowing to the corporations' wishes, even the most basic clean up of mere institutional controls were killed off that your agency had promised the community would be implemented to help mitigate the outward migration of toxins by isolating the hundreds of tons of waste perched just a few feet above the water table linked to the area's sole source aquifer system serving up to 600,000 Ohioans in several counties. *Instead this Superfund Site continues to freely flush to this day..*

Ms. McCarthy, I believe that those same US EPA experts **who had long ago shared their worries about the PAGs being implemented all too well understood the "gaming" of the rad testing that had already been going on for years. .... i.e., so called "compliance monitoring"** - using the US EPA "Finished Drinking Water 900 Methods" - methods meant for finished, treated water systems and they said was never meant to be used on raw, untreated water sources found like at IEL. Please see numerous letters documenting these serious deviations away from what is considered to be best available science in letters to EPA found on our group's website: <http://cclt.starksummit.org>

Thus, the EPA scientists not simply expressed their fears of the PAGs being misused leaving Americans at risk to dangerous radiation, *but they likewise raised serious concerns to me about the US EPA's unscientific usage of the "EPA Finished Drinking Water 900 Methods" on raw, untreated water sources suspected of containing radiation, which is what occurred at Uniontown IEL.*

**Therefore, I am writing you today to not only ask that you NOT sign off on the PAGs , but to please issue a change in policy immediately, before this Administration ceases, to once and for all prohibit the US EPA from allowing/prescribing/condoning the continued usage of the EPA Finished Drinking Water 900 Methods whenever raw, untreated water suspected of containing radiation is involved.**

**Important note:** While those same EPA whistle blowers had thought by 2000 they had at least stopped this practice of using the 900 on raw, untreated water after this was erroneously done to the Uniontown IEL Superfund Site, we have outrageously come to learn in recent years in working on fracking issues that US EPA continues to apparently suggest/permit others consulting the EPA to use the Finished Drinking Water 900 Methods on raw fracking waste water, despite the scientific evidence going against this being allowed, if in fact, there is a desire to learn the true amounts of water soluble radium 226 present **in the fracking wastes**. Experts consulted over the years advised me that they believed that while most people know that Plutonium is deadly, many do not understand that given the way **the water soluble radium** can be metabolized = bone seeking, even more in the body than Plutonium, which is somewhat excreted, **It is essential that EPA take these steps immediately to insure credible data is gathered given the vast amounts of fracking wastes being discharged daily into our US communities in Ohio, PA., W. Virginia, New York and elsewhere, or many more IEL landfills will occur.**

Sincerely,

Chris Borello, President , Concerned Citizens of Lake Twp.

Uniontown IEL Superfund Site, Ohio

Re:

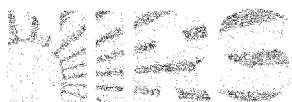
-----Original Message-----

From: Diane D'Arrigo - NIRS <nirs@nirs.org>

To: crborello@cccl.org

Sent: Mon, Nov 21, 2016 7:23 pm

Subject: Tell EPA - Stop Dangerous Radioactive Drinking Water!



NUCLEAR INFORMATION AND RESOURCE SERVICE • 6930 Carroll Ave., Ste. 340 • Takoma Park, MD, 20912 • (301) 270-6477 • [www.nirs.org](http://www.nirs.org)

November 21, 2016

Dear Friend,

In July, thousands of us took action to stop dangerous new radiation guidance for drinking water. The EPA refused to listen, and now this guidance could be approved anytime--unless we act now!

**Environmental Protection Agency (EPA) Administrator Gina McCarthy is on the verge of approving radiation levels hundreds and thousands of times higher than currently allowed in drinking water and at cleaned-up**

**Superfund sites.** These mis-named "Protective" Action Guides for Drinking Water (Water PAGs) dramatically INCREASE allowable radioactivity in water. Enormous levels of invisible but deadly radioactive contamination would be permitted in drinking water for weeks, months or even years after a nuclear accident or "incident." The PAGs are *not* for the immediate phase after a radioactive release but *the next phase*--which could last for years--when local residents may return home to contaminated water and not know the danger.

**Take action now: Protect drinking water from dangerous radiation levels!**

There are two quick actions to take today:

1. **Tell your EPA Regional Administrator (see map and list below)** to ask EPA Administrator Gina McCarthy why she is raising radiation levels allowed in drinking water.
2. **Send a message to Administrator McCarthy** yourself asking her not to approve these dangerous radiation levels in drinking water.

We have stopped PAGs like these from being approved before--and we can do it again. EPA insiders attempted to push these dangerous guides through in the waning days of the Bush administration, and public pressure like this got the

**Physicians for Social Responsibility ♦ Natural Resources Defense Council  
Sierra Club ♦ Friends of the Earth ♦ Food and Water Watch  
Clean Water Action ♦ Public Citizen ♦ Beyond Nuclear  
Nuclear Information and Resource Service  
Environment America ♦ Committee to Bridge the Gap ♦ Riverkeeper**

November 30, 2016

Gina McCarthy, US EPA Administrator  
US EPA Headquarters  
William Jefferson Clinton Building  
1200 Pennsylvania Avenue, N. W. Mail Code: 1101A  
Washington, DC 20460  
202-564-4700  
[McCarthy.gina@Epa.gov](mailto:McCarthy.gina@Epa.gov)

Dear Administrator McCarthy:

We understand that you are close to deciding whether to approve the 2013 Protective Action Guides (PAGs) and the additional Radionuclide Drinking Water PAGs any day now. Please take one more step before making that important decision: meet with us one more time, to clarify critical information.

As you know our groups and many others have been diligently commenting and raising serious concerns for many years about the PAGs. We believe that some of the premises that are being used to justify your final adoption of these PAGs are incorrect and ask that you meet with us one last time before proceeding.

The pending PAG proposal would upend decades of clean water protections. We think it would be appropriate for you to meet with us and consider seriously the information we have to provide before embarking on such a significant step backwards in terms of public protections.

We call your attention to a recent investigative piece on the issue by NBC Bay Area, which can be watched at <http://www.nbcbayarea.com/investigations/E-P-AS-NEW-EMERGENCY-PLAN-FOR-DRINKING-WATER-CONCERNS-MANY-401206656.html>.

After many environmental victories and successes throughout your tenure, moving the nation forward to a cleaner, safer, more energy efficient environment, we ask that you not depart with an unnecessary action that will justify enormous increases in radioactivity in drinking water.

We appreciate your service and ask you to reconsider how approving the PAGs will affect your legacy. We would be extremely grateful to meet with you at your earliest convenience, before you make this critical decision.

Sincerely,

Diane D'Arrigo\*  
Director Radioactive Waste Project  
Nuclear Information and Resource Service

Geoff Fettus  
Senior Attorney  
Natural Resources Defense Council

Catherine Thomasson, M.D.  
Executive Director  
Physicians for Social Responsibility

John Coequyt  
Director International Climate Programs  
Sierra Club

Damon Moglen  
Senior Strategic Advisor  
Friends of the Earth

Wenonah Hauter  
Executive Director  
Food and Water Watch

Lynn Thorp  
National Campaigns Director  
Clean Water Action

Anna Aurilio  
Washington DC Office Director  
Environment America

Catherine Lincoln  
Executive Coordinator  
Committee to Bridge the Gap

Allison Fisher  
Outreach Director  
Public Citizen

Paul Gallay  
President  
Hudson Riverkeeper

Cindy Folkers  
Radiation Specialist  
Beyond Nuclear

\* *Point of contact:* Diane D'Arrigo 202-841-8588 [dianed@nirs.org](mailto:dianed@nirs.org)



December 18<sup>th</sup>, 2016

Lisa Christ  
USEPA Headquarters, Office of Water  
William Jefferson Clinton Building  
1200 Pennsylvania Avenue, N. W.  
Mail Code: 4607M  
Washington, DC 20460  
202-564-8354; Christ.lisa@Epa.gov

Dear Lisa Christ:

Thank you so much for speaking with me on Tuesday December 13<sup>th</sup>, 2016 regarding EPA's Protective Action Guide for Drinking Water (Water PAGs) which is still at the Office of Management and Budget (OMB), or was so on that date. Could you please let me ***before the Water PAG is finalized*** know how the changes you told me about will be implemented? You may need to change what is at OMB to *be sure that what you believe is being accomplished is actually in the PAGs.*

You told me in our phone conversation that EPA's latest Water PAGs that are at OMB were changed from the last draft (Draft Protective Action Guide for Drinking Water, EPA Docket ID No. EPA-HQ-OAR-2007-0268) in response to public comments and concerns.

Specifically, you said that *the Water PAGs will only apply for up to 1 year maximum* and that they will *only apply to incidents of national significance, not lesser accidents or releases.*

If this is so, will the 2016 PAGs finalized on Dec 1, 2016 (<https://www.epa.gov/sites/production/files/2016-12/documents/epa-pag-manual-2016-prepublication.pdf>) be changed to reflect this in the definitions and descriptions of "incident(s)" and of the "intermediate phase"? They currently indicate that phase could be for "years" and for a wide array of lesser releases.

If those statements in the overall PAG document are not being altered, any contrary statement in the drinking water section would arguably be nullified by or at minimum contradicted by contrary statements elsewhere in the overall document.

If the contrary statements in the main body of the PAG document are not being fixed, then will the Water PAGs specifically state that the updated definitions you described to me will apply to the Water PAGs for drinking water ***notwithstanding any other provision in the PAGs?***

Page 1 Chapter 1 section 1.1 of the 2016 PAGs finalized on December 1, 2016 and published on EPA's website clearly states that the PAGs apply "any release or potential release into the environment of radioactive materials in sufficient quantity to warrant consideration of protective actions." This indicates they apply to many more incidents than a huge dirty bomb or nuclear power meltdown, indeed essentially any release of radioactivity for which protecting the public should be considered.

The 2016 PAGs apply to "***a wide range of incidents***" (pg. 2 under 1.2 Applicability) and "***...to an expanded range of sources of potential radiological releases, including nuclear power facilities, uranium fuel cycle facilities, nuclear weapons facilities, transportation accidents, radiopharmaceutical manufacturers and users, space vehicle launch and reentry...***" (pg. 4 section 1.3.5 Key Changes to PAGs in this Updated Manual).

The 2016 PAGs finalized on December 1, 2016 and published on EPA's website indicate that the intermediate phase can be for ***years***—plural--and describe allowable doses for those years. For example, pg. 8 of the PAG states, "Intermediate phase PAGs are based on doses projected ***in the first several years.***" (Emphasis added)

I am providing screen shots of some of the places in the 2016 PAG that need to be changed if what you told me is true. There are several places that indicate

- 1) the scope of the PAGs is broader than before and applies to a wide range of releases
- 2) the Intermediate Phase can last for multiple years.

There may be other places but these are the most obvious.

If these conflicting statements are not fixed to reflect what you told me EPA supposedly has decided to do, in response to public comments (i.e., limit the immediate phase to no more than 1 year and limit the scope of events covered to only very large events of national significance), any such language in the water section of the PAG will be at best contradicted by the statements elsewhere in the overall document. If truly EPA has decided to fix the problem, it needs to make the language consistent throughout, or at minimum, make clear that the time and scope limits for the water part of the PAG must be in force irrespective of any language elsewhere in the PAG.

Otherwise, the intention you described to me to fix the problem, in response to public comments, will be evanescent at best.

Please let us know how these changes are being made, *before* EPA signs off on the Water PAGs and it becomes too late.

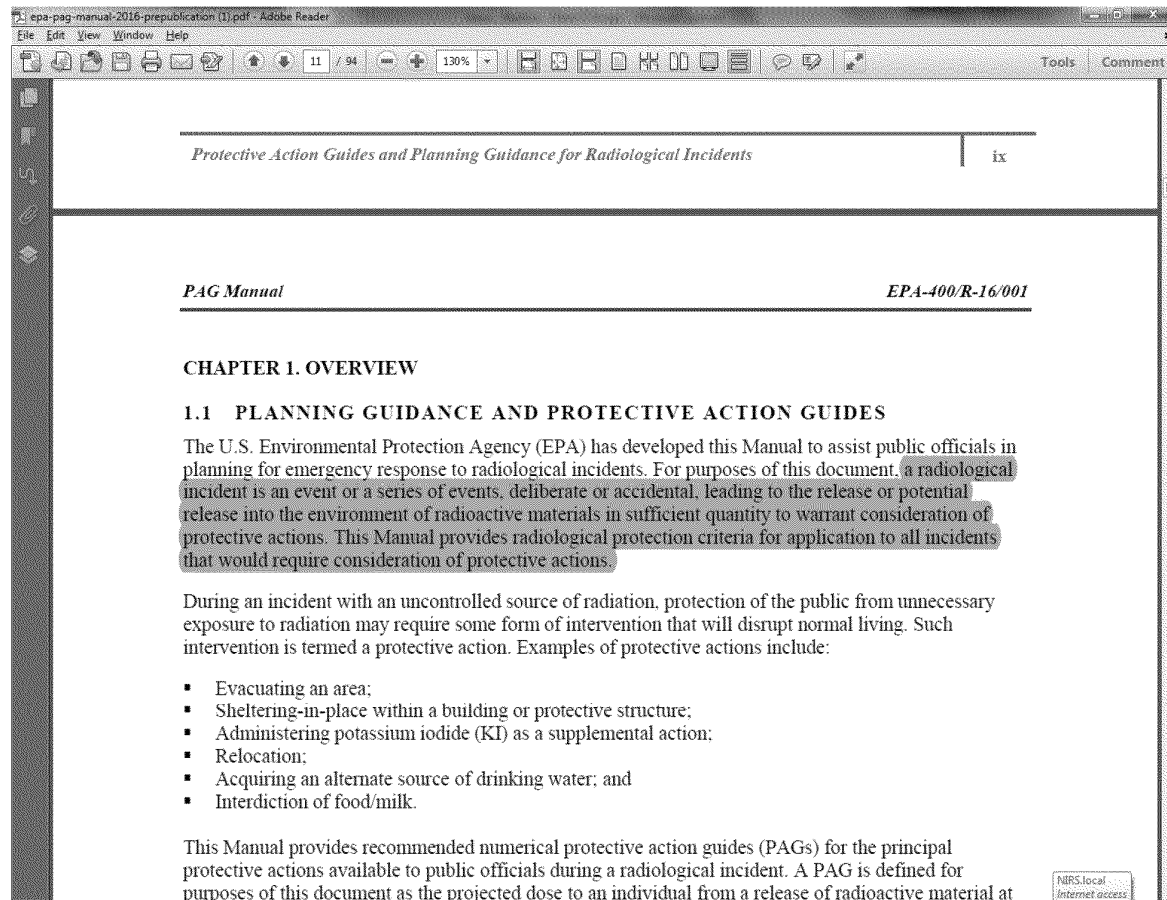
**Screen Shots from 2016 PAGs** <https://www.epa.gov/radiation/protective-action-guides-pags>:

### Scope of the PAGs

## CHAPTER 1. OVERVIEW

### 1.1 PLANNING GUIDANCE AND PROTECTIVE ACTION GUIDES

The U.S. Environmental Protection Agency (EPA) has developed this Manual to assist public officials in planning for emergency response to radiological incidents. For purposes of this document, a radiological incident is an event or a series of events, deliberate or accidental, leading to the release or potential release into the environment of radioactive materials in sufficient quantity to warrant consideration of protective actions. This Manual provides radiological protection criteria for application to all incidents that would require consideration of protective actions.





## 1.2 APPLICABILITY

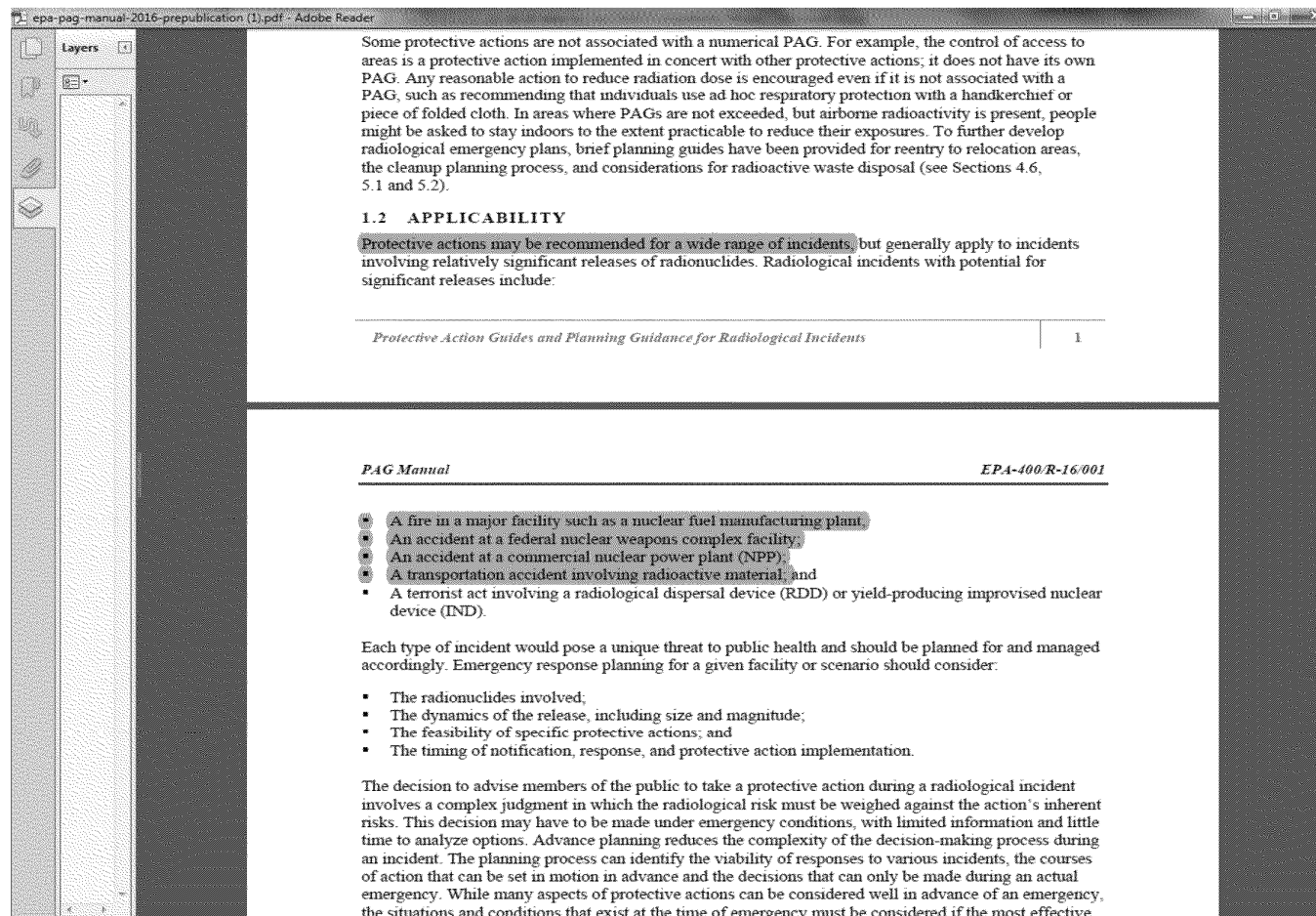
Protective actions may be recommended for a wide range of incidents, but generally apply to incidents involving relatively significant releases of radionuclides. Radiological incidents with potential for significant releases include:

PAGE 2

PAG Manual

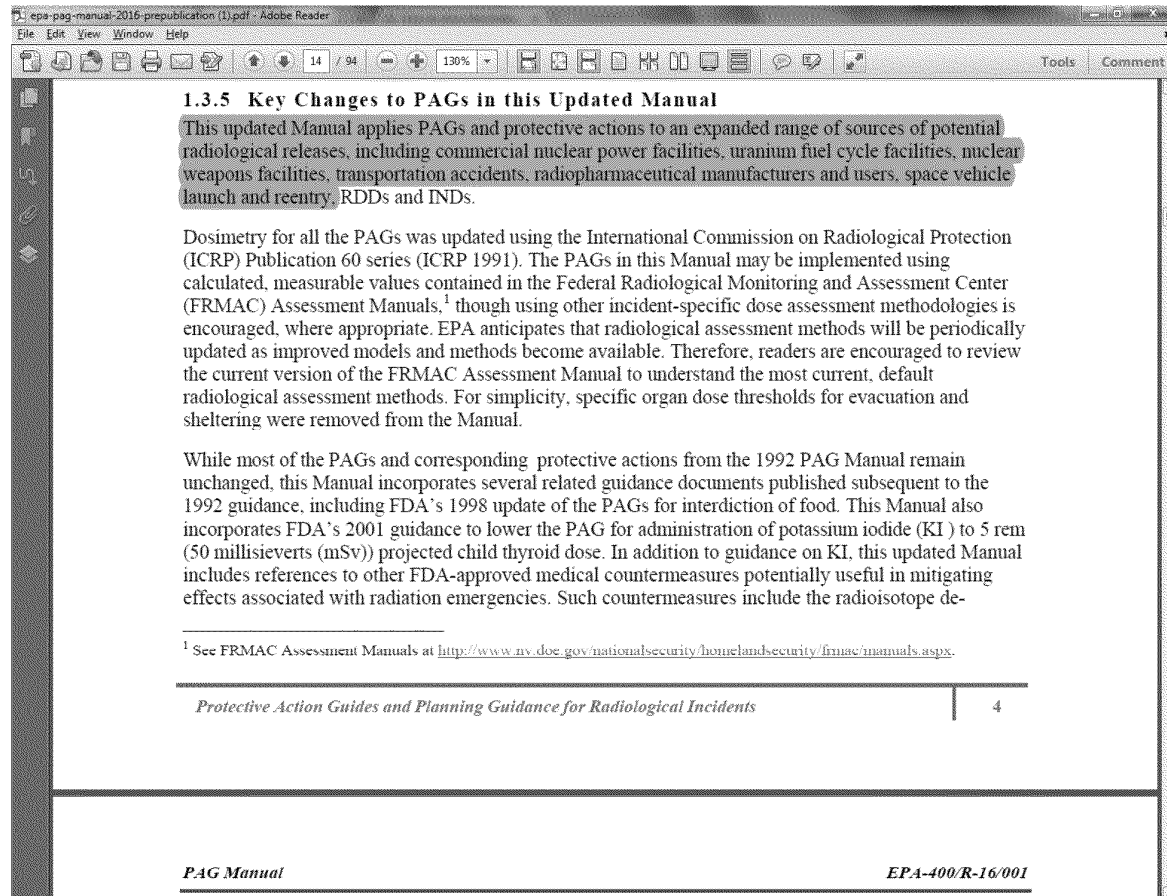
EPA-400/R-16/001

- A fire in a major facility such as a nuclear fuel manufacturing plant;
- An accident at a federal nuclear weapons complex facility;
- An accident at a commercial nuclear power plant (NPP);
- A transportation accident involving radioactive material; and
- A terrorist act involving a radiological dispersal device (RDD) or yield-producing improvised nuclear device (IND).



### 1.3.5 Key Changes to PAGs in this Updated Manual

This updated Manual applies PAGs and protective actions to an expanded range of sources of potential radiological releases, including commercial nuclear power facilities, uranium fuel cycle facilities, nuclear weapons facilities, transportation accidents, radiopharmaceutical manufacturers and users, space vehicle launch and reentry, RDDs and INDs.



Intermediate phase can last more than one, two or more years

epa-pag-manual-2016-prepublication (1).pdf - Adobe Reader  
File Edit View Window Help  
16 / 94 130%  
Zoom out (Ctrl+Minus) Tools Comment

**PAG Manual** **EPA-400/R-16/001**

Table 1-1. Summary Table for PAGs, Guidelines, and Planning Guidance for Radiological Incidents<sup>a</sup>

| Phase              | Protective Action Recommendation                                           | PAG, Guideline, or Planning Guidance                                                                                                                    |
|--------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Early Phase        | Sheltering-in-place or evacuation of the public <sup>b</sup>               | <b>PAG:</b> 1 to 5 rem (10 to 50 mSv) projected dose over four days <sup>c</sup>                                                                        |
|                    | Supplementary administration of prophylactic drugs – KI <sup>d</sup>       | <b>PAG:</b> 5 rem (50 mSv) projected child thyroid dose <sup>e</sup> from exposure to radioactive iodine                                                |
|                    | Limit emergency worker exposure (total dose incurred over entire response) | <b>Guideline:</b> 5 rem (50 mSv)/year (or greater under exceptional circumstances) <sup>f</sup>                                                         |
| Intermediate Phase | Relocation of the public                                                   | <b>PAG:</b> $\geq 2$ rem (20 mSv) projected dose <sup>e</sup> in the first year, 0.5 rem (5 mSv)/year projected dose in the second and subsequent years |
|                    | Apply simple dose reduction techniques                                     | <b>Guideline:</b> $< 2$ rem (20 mSv) projected dose <sup>e</sup> in the first year                                                                      |
|                    | Food interdiction <sup>g</sup>                                             | <b>PAG:</b> 0.5 rem (5 mSv)/year projected whole body dose, or 5 rem (50 mSv)/year to any individual organ or tissue, whichever is limiting             |
|                    | Alternative drinking water                                                 | <b>PAG:</b> pending finalization of proposal                                                                                                            |
|                    | Limit emergency worker exposure (total dose incurred over entire response) | <b>Guideline:</b> 5 rem (50 mSv)/year                                                                                                                   |
|                    | Reentry                                                                    | <b>Guideline:</b> Operational Guidelines <sup>h</sup> (stay times and concentrations) for specific reentry activities (see Section 4.6)                 |
| Late Phase         | Cleanup <sup>i</sup>                                                       | <b>Planning Guidance:</b> Brief description of planning process (see Section 5.1)                                                                       |
|                    | Waste Disposal                                                             | <b>Planning Guidance:</b> Brief description of planning process (see Section 5.2)                                                                       |

|                    |                                                                            |                                                                                                                                                         |
|--------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Early Phase        | prophylactic drugs – KI <sup>d</sup>                                       | <b>PAG:</b> 5 rem (50 mSv) projected child thyroid dose from exposure to radioactive iodine                                                             |
|                    | Limit emergency worker exposure (total dose incurred over entire response) | <b>Guideline:</b> 5 rem (50 mSv)/year (or greater under exceptional circumstances) <sup>f</sup>                                                         |
| Intermediate Phase | Relocation of the public                                                   | <b>PAG:</b> $\geq 2$ rem (20 mSv) projected dose <sup>e</sup> in the first year, 0.5 rem (5 mSv)/year projected dose in the second and subsequent years |
|                    | Apply simple dose reduction techniques                                     | <b>Guideline:</b> $< 2$ rem (20 mSv) projected dose <sup>e</sup> in the first year                                                                      |
|                    | Food interdiction <sup>g</sup>                                             | <b>PAG:</b> 0.5 rem (5 mSv)/year projected whole body dose, or 5 rem (50 mSv)/year to any individual organ or tissue, whichever is limiting             |
|                    | Alternative drinking water                                                 | <b>PAG:</b> pending finalization of proposal                                                                                                            |
|                    | Limit emergency worker exposure (total dose incurred over entire response) | <b>Guideline:</b> 5 rem (50 mSv)/year                                                                                                                   |
|                    | Reentry                                                                    | <b>Guideline:</b> Operational Guidelines <sup>h</sup> (stay times and concentrations) for specific reentry activities (see Section 4.6)                 |
| Late Phase         | Cleanup <sup>i</sup>                                                       | <b>Planning Guidance:</b> Brief description of planning process (see Section 5.1)                                                                       |

Intermediate phase PAGs are based on doses projected in the first several years. The PAG for relocation of the public is 2 rem (20 mSv) in the first year and 0.5 rem (5 mSv) in any subsequent year. (Note: Relocation PAGs are treated separately from food and water ingestion. That is, projection of intermediate phase doses should not include these ingestion pathways. In some instances, however, where withdrawal of food and/or water from use would, in itself, create a health risk, relocation may be an appropriate alternative protective action. In this case, the ingestion dose should be considered along with the projected dose from deposited radionuclides via other pathways, for decisions on relocation.) When projected doses are less than the relocation PAG of 2 rem (20 mSv) in the first year, focused environmental decontamination and cleanup may be able to reduce doses to populations that are not relocated. Decontamination and focused cleanup techniques can range from simple actions such as the scrubbing and flushing of surfaces with uncontaminated water to the removal and disposal of soil and contaminated debris.

Keeping projected doses below the 0.5 rem (5 mSv) PAG – in the second and subsequent years – may be

Table 4-1. PAGs and Protective Actions for Exposure to Deposited Radioactivity during the Intermediate Phase of a Radiological Incident<sup>a</sup>

| Protective Action Recommendation                    | PAG or Guideline                                                                                                                                                        | Comments                                                                                  |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Relocation of the public <sup>b</sup>               | <b>PAG:</b> $\geq 2$ rem (20 mSv) projected dose <sup>c</sup> in the first year,<br>0.5 rem (5 mSv)/year projected dose <sup>c</sup> in the second and subsequent years | Projected dose over one year of exposure.                                                 |
| Apply simple dose reduction techniques <sup>d</sup> | <b>Guideline:</b> $< 2$ rem (20 mSv) projected dose <sup>c</sup> in the first year                                                                                      | These protective actions should be taken to reduce doses to as low as practicable levels. |
| Food interdiction <sup>e</sup>                      | <b>PAG:</b> 0.5 rem (5 mSv)/year projected whole body dose, or 5 rem (50 mSv)/year to any individual organ or tissue, whichever is limiting                             |                                                                                           |

#### 4.2.1 Removal of the 50 Year Relocation PAG

For simplicity, the 1992 relocation PAG of 5 rem (50 mSv) over 50 years has been removed from this Manual. It is rarely, if ever, the driver for extending a relocation area beyond that prompted by the first or second year relocation PAGs in scenarios that have been analyzed. Additionally, dose projections over 50 years after a radiological incident for various age groups show no significant differences for individuals

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#### 4.3.2 Dose Projections

The FRMAC Assessment Manuals<sup>31</sup> provide detailed guidance for dose projection and calculating DRLs and DPs. The FRMAC Assessment Manuals incorporate the ICRP dosimetry models (currently the ICRP 60 series). In addition, the FRPCC encourages the use of computational tools such as DOE's Turbo FRMAC and NRC's RASCAL or other appropriate tools and methods to implement the PAGs.

The primary dose of interest in the intermediate phase is the sum of the effective dose from external exposure and the committed effective dose from inhalation. The exposure periods of interest are the first year and subsequent years after the incident. Other pathways should also be evaluated and their

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Projected dose considers exposure rate reduction from radioactive decay and, generally, weathering. When one also considers the anticipated effects of shielding from normal part time occupancy in homes and other structures, people who are not relocated are likely to receive a dose substantially less than the projected dose. For commonly assumed reactor source-terms, it is estimated that 2 rem (20 mSv) projected dose in the first year will be reduced to about 1.2 rem (12 mSv) by this factor. The application of simple decontamination techniques shortly after the incident can be assumed to provide a further 30 percent or more reduction so that the maximum first year dose to people who are not relocated is expected to be less than 1 rem (10 mSv). Taking account of decay rates assumed to be associated with releases from NPP incidents (SNL 1982) and shielding from partial occupancy and weathering, a projected dose of 2 rem (20 mSv) in the first year is likely to amount to an actual dose of 0.5 rem (5 mSv) or less in the second year. The application of simple dose reduction techniques would reduce the dose further. Calculations supporting these projections are summarized in Table E-6 of the 1992 PAG Manual.<sup>32</sup>

Keeping below the 0.5 rem (5 mSv) PAG for subsequent years—the second year and beyond—may be achieved through natural decay of shorter half-life radioisotopes, through decontamination efforts, or through other means of controlling public exposures (such as limiting access to certain areas). In the case of an RDD, in which a longer half-life radioisotope would likely be utilized, reductions in dose may prove difficult to achieve without longer-term measures (see Chapter 5).

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|                                     |                                          |                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inter-<br/>mediate<br/>Phase</b> | <b>Relocation<br/>for the<br/>Public</b> | <p><b>Public:</b> 2 rem (20 mSv) projected first year, 0.5 rem (5 mSv) per year projected in subsequent years (see Chapter 4).</p> <p>In this phase, scientists run dose calculations with RESRAD-RDD or Turbo FRMAC; the user can choose sensitive age groups, or enter lower guidelines, if desired. Additionally, local decisions</p> | <p>Early cleanup efforts should focus on the removable portion of the contamination: vacuuming, washing, vegetation removal.</p> <ul style="list-style-type: none"> <li>▪ Vacuuming has the advantage of collecting removable contamination without water or surface impact, but is limited by equipment availability and can also expose the operators to high dose levels as the vacuums collect the contamination.</li> <li>▪ Washing and rinsing are simple to implement, but only move the contamination to less-populated areas and may move contamination deeper into</li> </ul> |
|                                     |                                          |                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|                                     |                                                          |                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                    |
|-------------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inter-<br/>mediate<br/>Phase</b> |                                                          | <p>associated with radiation exposure, training to protect themselves, and dosimeters to track their doses (see Chapter 3).</p> <p>During an incident response, workers (police, waste handlers) needed in contaminated areas could be trained and given dosimeters. The guidance for emergency workers applies throughout the response.</p> | <p>re-applied, refined or customized for problem areas. Decisions about more difficult areas will benefit from professional judgment, additional analyses, and application of more sophisticated technologies.</p> |
|                                     | <b>Reentry<br/>For Use of<br/>Roads and<br/>Walkways</b> | <p><b>Public:</b> 2 rem (20 mSv) first year, 0.5 rem (5 mSv) per year in subsequent years (<i>Operational Guidelines, Group E</i>).</p>                                                                                                                                                                                                      |                                                                                                                                                                                                                    |

We appreciate your efforts at responding to these major public concerns and implore you to be sure the changes are truly being implemented, or reject the Water PAGs.

Sincerely,

Diane D'Arrigo  
Radioactive Waste Project Director  
Nuclear Information and Resource Service  
[dianed@nirs.org](mailto:dianed@nirs.org)  
202 841 8588 mobile

Cc: Gina McCarthy, Joel Beauvais



STATE OF NEW YORK  
OFFICE OF THE ATTORNEY GENERAL

ERIC T. SCHNEIDERMAN  
ATTORNEY GENERAL

DIVISION OF SOCIAL JUSTICE  
ENVIRONMENTAL PROTECTION BUREAU

July 25, 2016

Joel Beauvais,  
Deputy Assistant Administrator, Office of Water  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460

Re: Draft EPA "Protective Action Guides"  
for Drinking Water After a Radiological Incident  
ID No. EPA-HQ-OAR-2007-0268

Dear Mr. Beauvais:

The Office of the New York Attorney General (NYOAG) writes to communicate its concerns about the United States Environmental Protection Agency's proposed guidance establishing acceptable drinking water contaminant levels following the release of radionuclides from nuclear accidents. The levels proposed far exceed existing limits on contaminant levels promulgated under the federal Safe Drinking Water Act and applied historically across all regulatory and emergency response programs. Specifically, EPA is developing the drinking water Protective Action Guides (or PAGs) for use by federal, state, and local officials along with public water systems and water purveyors in the event that radionuclides are released into cities, towns, farmlands, or drinking water reservoirs to determine when drinking water that is contaminated with radionuclides will nonetheless be provided to the public for consumption. EPA states that it would refer and use the drinking water PAGs in connection with a radiological incident, which is an event, deliberate or accidental, that leads to the release into the environment of significant amount of radioactive materials, such as a reactor or spent fuel pool accident at the aging Indian Point power plants in New York – which are close to reservoirs that provide drinking water for the millions of residents of New York City and other communities in the tri-state metropolitan area.

The proposed PAGs, which were developed by EPA's Radiation and Water Offices in concert with the Nuclear Regulatory Commission, the Department of Energy, and the Office of Information and Regulatory Affairs, would allow New Yorkers to be exposed to significantly more radiation from consumption of drinking water than would be permitted under the Maximum Contaminant Levels (MCLs) established under the legal mandate set forth in the Safe Drinking Water Act. During the development of the PAGs, NRC, which licenses the operation of nuclear power reactors and spent fuel pools, has advocated that EPA establish less-protective guides (*i.e.*, higher numerical limits). *See* NRC SECY-2011-0078 at 4 (June

9, 2011) ML111430863. In early, 2011, EPA declined that NRC proposal and determined to continue to rely on radiological health standards employed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Safe Drinking Water Act, NRC actively opposed the use of those more protective standards. *Id.* Instead, NRC insisted that the PAGs incorporate a dose of 500 millirem per year and thereby reduce the need to evacuate citizens or to supply them with potable water. *Id.* In the June 2016 proposed drinking water PAGs, EPA changed course and adopted the 500 mrem dose, which it then used to calculate the drinking water concentrations for radionuclides following a radiation release. It also adopted a 100 mrem dose for infants, children, and pregnant or nursing women. Neither the PAGs Manual nor any of EPA's publically-available supporting documentation provides an adequate explanation or justification for the derivation of the 500 mrem value – or the 100 mrem dose for vulnerable populations. Furthermore, the cumulative effects of exposure to the radionuclide concentrations also authorized by other PAGs for food, milk, water, and other exposure pathways is not addressed in any of the EPA documents.

The drinking water PAGs are, in effect, a variance from EPA's legally-mandated MCLs for radioactive pollutants in public drinking water supplies and are contrary to the Safe Drinking Water Act's anti-backsliding provisions. *See generally City of Waukesha v. EPA*, 320 F.3d 228 (D.C. Cir. 2003). For example, the MCL for cesium-137 is 200 pCi/L, while the proposed PAG for cesium is 16,570 pCi/L – 82 times higher than the MCL. Both the MCLs and the EPA Guides represent annual maximum concentration limits. The accompanying comparison chart identifies the rollback in public health protections authorized by the drinking water PAGs with respect to three specific radionuclides.<sup>1</sup> Moreover, there is no basis for EPA to use the higher, less-protective values when it has previously promulgated maximum contaminant levels under the Safe Drinking Water Act. In fact, as noted in the earlier 2013 PAG Manual, "EPA's current practice is to use the MCLs for radionuclides." 2013 EPA Draft PAG Manual at p. 9. EPA's June 2016 proposal represents a dramatic departure from previous EPA practice with respect to drinking water resources and lacks the requisite explanation of need and rationale to support such a significant change of course.

In its June 2016 proposal, EPA announced that the proposed protective action guides for drinking water would apply during the "intermediate phase" following a radiological incident. The duration of the intermediate phase is ill-defined and has no definitive endpoint. According to EPA "this phase may last from weeks to months and could also overlap the early phase (hours to days) and the late phase (months to years)." 2016 Draft Drinking Water PAG at 4 & fn. 1. Thus, as acknowledged by EPA, the proposed intermediate phase drinking water PAGs could remain in place for many months and even years and permit New Yorkers to be exposed to radiation concentrations well in excess of

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<sup>1</sup> The impact, if any, with respect to the other 100 plus radionuclides (*i.e.*, beyond cesium-137, iodine-131, and strontium-90), is not disclosed in the current June 2016 EPA documents. When EPA previously sought to issue drinking water PAGs back in January 2009, it identified the impact of that proposal for approximately 110 radionuclides. EPA should publish a radionuclide-by-radionuclide comparison of the MCLs and the PAGs for *all* radionuclides.



the levels established by the Safe Drinking Water Act for months and even years.<sup>2</sup> Indeed, there is nothing to prevent the ill-defined intermediate phase from continuing on indefinitely and its PAGs from becoming a default clean up standard.

Furthermore, it appears that EPA staff developed the Guides outside of the Administrative Procedure Act framework for rulemakings and in violation of the National Environmental Policy Act. Although EPA claims that the proposed, draft PAGs are mere guidance, it is clear that the intent of issuing these guidelines is to provide support to decision-makers who will be responding to the release of radiation into communities and drinking water reservoirs in emergency situations. EPA states that “[The PAG manual] is designed for the use of those in Federal, State, and local government with responsibility for emergency response planning.” *Id.* at 1-1; *see also* 81 Fed. Reg. at 37590 (June 2016). According to the draft manual, “EPA is proposing a two-tier drinking water PAG that would be used during the intermediate phase following a radiation incident...” 2016 Draft Drinking Water PAG at 4. Also, NRC has referred to and relied on EPA PAGs when analyzing accident scenarios at nuclear power facilities and in the recent national level “Southern Exposure 2015 (SE-15)” exercise, which explored the consequences of a nuclear power plant accident involving “widespread contamination beyond the site boundary.” *See, e.g.*, NUREG-2161, Consequence Study of a Beyond-Design-Basis Earthquake Affecting the Spent Fuel Pool for a U.S. Mark I Boiling Water Reactor (Sept. 2014) ML14255A365; NRC SECY-15-0140 at 7-8 (Nov. 5, 2015) ML15203A139. NRC and its licensees rely on EPA PAGs for emergency planning purposes and in determining different levels of emergencies at power reactor and spent fuel pool sites. *See, e.g.*, Indian Point Emergency Plan, Rev. 18, D-2 to D-5 (Dec. 16, 2015) ML15357A005.

The NYOAG is particularly concerned about EPA’s proposal given that EPA initially developed PAGs primarily for nuclear power plant accidents, EPA-400-R-92-001 (May 1992) at 7-1, and would likely use the proposed drinking water PAGs if an accident were to occur at Indian Point’s reactors or densely-packed spent fuel pools, which are 24 miles north of New York City and are in close proximity to reservoirs which supply the drinking water for millions of residents of New York City and other communities. The federal government authorized the construction of nuclear power facilities at the Indian Point site before it developed siting regulations for power reactors. With approximately 17 million people currently living within 50 miles of Indian Point, no other operating reactor, spent fuel pool, or waste storage site in the country has a surrounding population that comes close to that of Indian Point.<sup>3</sup>

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<sup>2</sup> *See also* e.g., 2013 EPA Draft PAG Manual § 3.3 and Table 3-1 (p 36) discussing “intermediate phase” PAGs extending out into subsequent years after the first year following a radiological accident.

<sup>3</sup> *See* NUREG-1437 (1996) at §2.2 & Table 2.1 (based on 1990 census); NUREG-1437, Rev. 1 (2013) at §3.1, Figure 3.1.1, Table 3.1.1 (based on 2000 census). Indian Point’s current operator projects that the population living within 50 miles of the plant will grow to 19.2 million people by 2035. *See* Environmental Report for License Renewal of Indian Point Unit 2 and Unit 3 (2007) at 2-35 (“The total population (including transient populations) within a 50-mile radius of the site is projected to be 19,228,712 in 2035.”).

EPA's proposed drinking water PAGs are inappropriate for Indian Point and the New York metropolitan area and would potentially allow millions of New York residents to ingest drinking water containing concentrations of radionuclides that are well in excess of what has been considered to pose an acceptable risk, as properly developed and promulgated under the Safe Drinking Water Act. In the event the proposed drinking water PAGs are used as a basis for determining whether alternative sources of drinking water must be provided following a release of radionuclides, it is likely that it will have significant consequences to human health, not only to the general population as a whole, but especially to vulnerable subpopulations such as the infants, children, and pregnant and nursing women.

For all of these reasons, the NYOAG requests that EPA withdraw the proposed PAGs for drinking water and continue to utilize the MCLs established under the Safe Drinking Water Act to determine whether drinking water contaminated with radionuclides may nonetheless be used by the public.

Sincerely,

*s/ John Sipos*

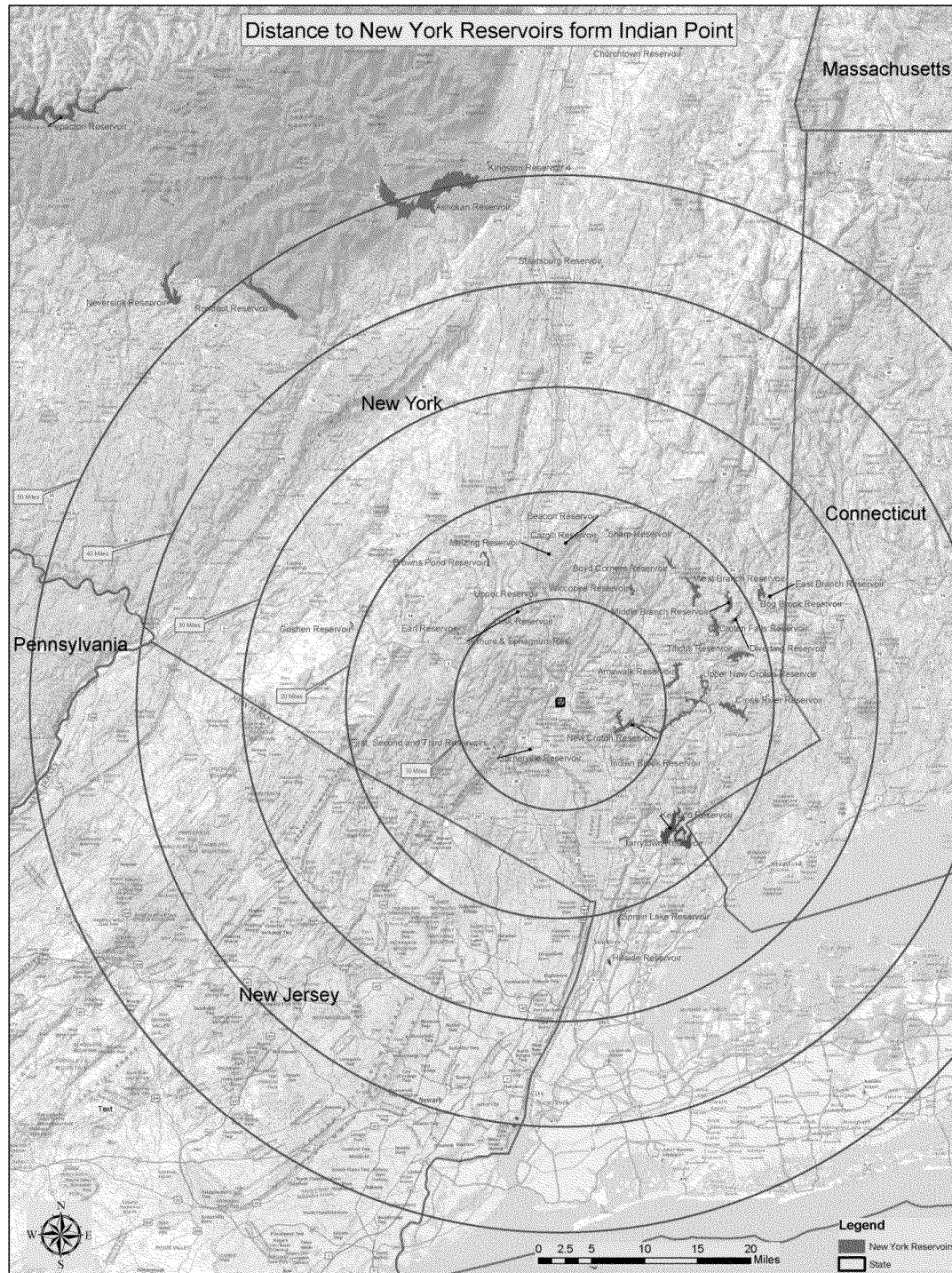
John Sipos  
Assistant Attorney General  
(518) 776-2380  
[John.Sipos@ag.ny.gov](mailto:John.Sipos@ag.ny.gov)

copy to:

Lisa M. Christ,  
EPA, Office of Ground Water & Drinking Water

| COMPARISON OF SAFE DRINKING WATER ACT MAXIMUM CONTAMINANT LEVEL AND<br>“PROTECTIVE” ACTION GUIDE UNDER CONSIDERATION BY EPA WITH RESPECT TO 3 POLLUTANTS |                                                                       |                                                                                                  |                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------|
| RADIONUCLIDE                                                                                                                                             | SAFE DRINKING<br>WATER ACT MAXIMUM<br>CONTAMINANT LEVEL<br>(SDWA MCL) | EPA GUIDE LEVEL<br>WITH 500 MREM DOSE<br>(source: p 18/22 of<br>June 2016 EPA<br>guide, Table 1) | DIFFERENCE BETWEEN<br>EPA GUIDE & MCL<br>(factor) |
| strontium-90                                                                                                                                             | 8 pCi/L                                                               | 7,400 pCi/L                                                                                      | 925x                                              |
| iodine-131                                                                                                                                               | 3 pCi/L                                                               | 10,350 pCi/L                                                                                     | 3,450x                                            |
| cesium-137                                                                                                                                               | 200 pCi/L                                                             | 16,570 pCi/L                                                                                     | 82x                                               |

# DISTANCE TO NEW YORK RESERVOIRS FROM INDIAN POINT SPENT FUEL POOLS AND REACTORS



**From:** Hernandez-Quinones, Samuel  
**Location:** @LC's  
**Importance:** Normal  
**Subject:** Accepted: DW PAGs!  
**Start Date/Time:** Wed 1/11/2017 8:30:00 PM  
**End Date/Time:** Wed 1/11/2017 9:00:00 PM

**From:** Burneson, Eric  
**Location:** @LC's  
**Importance:** Normal  
**Subject:** Accepted: DW PAGs!  
**Start Date/Time:** Wed 1/11/2017 8:30:00 PM  
**End Date/Time:** Wed 1/11/2017 9:00:00 PM

**To:** Flaharty, Stephanie[Flaharty.Stephanie@epa.gov]  
**Cc:** Christ, Lisa[Christ.Lisa@epa.gov]  
**From:** Burneson, Eric  
**Sent:** Mon 11/7/2016 5:44:29 PM  
**Subject:** RE: OP Inquiry re: PAGs DW draft FRN

Lisa can you check on the status and get back to Stephanie on the FRN.

**From:** Flaharty, Stephanie  
**Sent:** Monday, November 07, 2016 12:37 PM  
**To:** Burneson, Eric <Burneson.Eric@epa.gov>  
**Subject:** OP Inquiry re: PAGs DW draft FRN

Eric,

Nicole Owen (OP) wants to know when our draft FRN will be ready for OMB review.

Thanks,

Steph

**To:** Wehling, Carrie[Wehling.Carrie@epa.gov]  
**Cc:** Bangser, Paul[bangser.paul@epa.gov]; Huff, Lisa[Huff.Lisa@epa.gov]; Burneson, Eric[Burneson.Eric@epa.gov]; Christ, Lisa[Christ.Lisa@epa.gov]  
**From:** Hernandez-Quinones, Samuel  
**Sent:** Tue 11/1/2016 8:10:35 PM  
**Subject:** Request for Review - DW PAG FRN  
[Alternate FRN EPA Drinking Water PAG 11-1-16.docx](#)

Hi Carrie,

We are requesting OGC review for the attached FRN regarding the final drinking water PAG. Previously you reviewed our DW input for the PAG document, and we incorporated all your suggested edits. The DW PAG write-up is currently at OMB undergoing the interagency review.

We had initially planned to fold the DW input into the overall PAG Manual, but to due unforeseen delays we are changing our approach and we now are planning to issue the DW PAG separately from the overall PAG Manual. OMB has requested that we provide a FRN to announce the availability of the Drinking Water guidance.

Please let me know if it is possible to get your feedback to us by Tomorrow, otherwise let us know when we might expect to get some feedback from OGC. I know that most likely you have other important commitments previously scheduled, so I appreciate any support you can provide.

Thank You

Sam

=====

Samuel Hernández Quiñones, P.E.  
Environmental Engineer  
Office of Water

Environmental Protection Agency  
1200 Pennsylvania Ave. NW  
Washington, DC 20460  
202-564-1735



"USEPA Protecting Human Health and the Environment"

**To:** Burneson, Eric[Burneson.Eric@epa.gov]  
**Cc:** Christ, Lisa[Christ.Lisa@epa.gov]; Huff, Lisa[Huff.Lisa@epa.gov]  
**From:** Hernandez-Quinones, Samuel  
**Sent:** Mon 10/31/2016 2:59:01 PM  
**Subject:** Input for Alternate FRN DW PAG  
Alternate FRN EPA Drinking Water PAG 10-28-16.docx

Hi Eric,

Attached is our input for the Alternate FRN for the DW PAG in case the DW part has to be issued separately from the overall PAG Manual.

Let me know if you have any edits or comments.

Thanks

Sam

=====

Samuel Hernández Quiñones, P.E.  
Environmental Engineer  
Office of Water

Environmental Protection Agency  
1200 Pennsylvania Ave. NW  
Washington, DC 20460  
202-564-1735

"USEPA Protecting Human Health and the Environment"

**To:** Grevatt, Peter[Grevatt.Peter@epa.gov]; Burneson, Eric[Burneson.Eric@epa.gov]; Oshida, Phil[Oshida.Phil@epa.gov]; Christ, Lisa[Christ.Lisa@epa.gov]; Huff, Lisa[Huff.Lisa@epa.gov]; Hernandez-Quinones, Samuel[Hernandez.Samuel@epa.gov]; Greene, Ashley[Greene.Ashley@epa.gov]; Wadlington, Christina[Wadlington.Christina@epa.gov]  
**Cc:** Evalenko, Sandy[Evalenko.Sandy@epa.gov]; Arrigoni, Holly[Arrigoni.Holly@epa.gov]  
**From:** Flaharty, Stephanie  
**Sent:** Tue 10/25/2016 10:40:20 AM  
**Subject:** BNA and Inside EPA: PAGs Lawsuit

## Radiation Effects in Water Not Disclosed by EPA: Lawsuit

Oct. 24 — The public is being kept in the dark about what one activist group said are unsafe levels of radioactive contamination federal regulators would allow in drinking water in the event of a nuclear plant accident or other event (*Pub. Emps. for Env'tl. Responsibility v. EPA*, D.D.C., No. 1:16-cv-02112, 10/24/16).

Public Employees for Environmental Responsibility sued the Environmental Protection Agency in federal court Oct. 24, demanding the release of exposure data for new concentrations being set for 110 radionuclides in drinking water supplies.

The EPA sent the final version of its emergency response guidance to the White House Office of Management and Budget for review Oct. 21. Called a protective action guide, the document would establish acceptable levels of radionuclides--radioactive isotopes that occur naturally or come from human-made sources--in drinking water.

In July, the EPA released its draft emergency response guidance and received more than 62,000 comments.

PEER alleged in the lawsuit filed under the Freedom of Information Act that radionuclide levels that the EPA would allow exceed Safe Drinking Water Act standards. Moreover, the group said the guidance sets new concentrations for 110 radionuclides, but the agency has only disclosed the precise levels for four of them.

"It is outrageous that EPA put a plan out for public comment while hiding the key parts of its proposal," Jeff Ruch, the group's executive director, said in a written statement. "EPA should withdraw this irresponsible plan radically hiking allowable radioactivity in our drinking water."

According to information on the agency's website, the protective action guide manual contains radiation dose guidelines that would trigger public safety measures, such as evacuation or staying indoors, to minimize or prevent radiation exposure during a large-scale emergency "when radiation levels could be high enough to cause health effects unless public safety measures are taken."

Public water systems supported the EPA's two-tiered approach in comments submitted on the July draft.

“During such emergencies, the water system resources are likely to be strained,” Tracy Mehan, executive director for government affairs for the American Water Works Association, said in the comments. “Water system focus should be on recovering the water system to normal operations as soon as possible, and EPA or state authorities should assume responsibility for communicating with the public.”

To contact the reporter on this story: Susan Bruninga in Washington at [sbruninga@bna.com](mailto:sbruninga@bna.com)

To contact the editor responsible for this story: Larry Pearl at [lpearl@bna.com](mailto:lpearl@bna.com)

For More Information

The complaint is at <http://src.bna.com/jAd>

## EPA Advances Radiological Emergency Guide As Advocates Sue For Data

October 24, 2016

EPA is moving close to finalizing a controversial guidance on responding to radiological emergencies by sending a final chapter on drinking water levels for White House review and reiterating plans to issue the guide by the end of this year, but critics of the policy are suing EPA to release data they argue would help justify a stricter guidance.

The White House Office of Management & Budget (OMB) completed review of the overall final Protective Action Guidance (PAG) for Radiological Incidents Oct. 20, according to OMB's website. The document is also known as the PAG Manual.

Separately, EPA Oct. 21 sent for OMB review an additional final chapter for the PAG manual that addresses short-term drinking water levels.

A draft version of the manual EPA issued in 2013 did not include a short-term drinking water PAG, but the agency took comment earlier this year on a proposed draft [drinking water PAG](#). The agency has said it plans to incorporate the drinking water amendments into the full PAG Manual, and issue the manual for adoption into state, local, tribal and federal emergency response plans over a one-year period.

“The OMB-completed PAG Manual contains radiation dose guidelines that would trigger public safety measures to minimize or prevent radiation exposure during an emergency,” an EPA spokeswoman told *Inside EPA* Oct. 24. “This includes guidance on evacuation, sheltering, relocation, food safety, potassium iodide administration, cleanup and waste disposal. This document does not include guidance on drinking water.”

The spokeswoman added that “EPA anticipates publishing the PAG Manual: Protective Action Guides And Planning Guidance For Radiological Incidents by the end of the year.”

The drinking water PAG has been especially controversial, with dozens of environmental groups in [July 25 comments](#) urging the agency to withdraw the proposal. Drinking water utilities backed EPA's proposal while the nuclear industry called for a less stringent dose range.

While the Obama administration pulled back an 11th-hour Bush administration proposal for water PAGs due to concerns that the levels proposed would exceed EPA's acceptable cancer risk range, “EPA has now reversed itself again, and is proposing water PAGs orders of magnitude higher than its longstanding [maximum contaminant limits (MCLs)] under the Safe Drinking Water Act and that are even more troubling than were those proposed in the last days of the prior administration,” the environmental groups said.

EPA has said the agency will reveal the rest of the concentrations once it adopts the PAGs, the groups said, but they countered, “This game of ‘hide the ball’ is unacceptable for a public agency and in matters of such public importance.”

Given that the concentrations for the three radionuclides EPA has released are at even higher levels than those in the Bush rule, “one can surmise that were EPA to disclose the figures for the rest it could be apparent that they exceed MCLs by even larger amounts,” they noted.

## **PAG Concentrations**

Public Employees for Environmental Responsibility (PEER), one of the 63 signatories to the comment letter, has repeatedly raised concerns that the proposed drinking water PAG sets new concentrations, or Derived Response Levels (DRLs), for 110 radionuclides, but discloses only three of these concentrations.

The group is now suing EPA over the agency's failure to meet a Freedom of Information Act (FOIA) deadline for responding to its request for technical

documents disclosing the allowable concentrations of radioactivity in drinking water that it is proposing for more than 100 radionuclides.

In a Sept. 6 FOIA request, PEER asks for "[a]ll documents containing DRLs, for both the decay and no-decay assumptions for radionuclides covered or affected by this proposed PAG," as well as "[a]ll documents comparing numerical DRL concentrations associated with this proposed PAG, for the decay and/or no-decay assumptions, to concentrations from the [SDWA] MCLs and/or with concentrations associated with  $1 \times 10^{-4}$  lifetime risk," and "decision documents reflecting the rationale" for withholding these two types of documents.

But EPA told PEER it would need 45 days to respond to the Sept. 6 request in order to account for intra-agency coordination, and a PEER source has said the group fears the agency is stalling FOIA releases until at least after it has finalized the water amendments

Now, in a suit filed with the U.S. District Court for the District of Columbia, PEER is seeking "to disclose records wrongfully withheld in failing to respond within the statutory deadline to Plaintiff's FOIA request," the group's complaint says.

FOIA requires agencies to respond to information requests within 20 working days, with a 10-day extension possible in "unusual circumstances."

PEER says EPA's failure to meet FOIA's deadlines "is arbitrary and capricious and amounts to a denial of Plaintiff's FOIA request. EPA is frustrating Plaintiff's efforts to educate the public about EPA's proposed concentrations for radionuclides in the event of a nuclear disaster."

The group adds, "EPA may approve or finalize the Draft PAGs at any point. Our request seeks critical information about the effects of that action which the public should have before this final agency action occurs."

In an Oct. 24 statement announcing the suit, PEER Executive Director Jeff Ruch said, "It is outrageous that EPA put a plan out for public comment while hiding the key parts of its proposal." He noted that the proposed PAGs have elicited more than 60,000 public comments, with opposition exceeding support by a ratio of roughly ten-thousand-to-one and again called on EPA to withdraw the proposal. -- *Lara Beaven* ([lbeaven@iwpnews.com](mailto:lbeaven@iwpnews.com))

**To:** Christ, Lisa[Christ.Lisa@epa.gov]  
**From:** Hernandez-Quinones, Samuel  
**Sent:** Mon 10/24/2016 8:54:51 PM  
**Subject:** RE: SEPW (minority) PAGs Discussion

Ok,

I will be ready.

Sam

**From:** Christ, Lisa  
**Sent:** Monday, October 24, 2016 4:53 PM  
**To:** Hernandez-Quinones, Samuel <Hernandez.Samuel@epa.gov>  
**Subject:** FW: SEPW (minority) PAGs Discussion

Hi Sam,

Giving you a heads up that SEPW wants to talk to us soon about the DW PAG.

Lisa

**From:** Burneson, Eric  
**Sent:** Monday, October 24, 2016 4:49 PM  
**To:** Greene, Ashley <Greene.Ashley@epa.gov>; Christ, Lisa <Christ.Lisa@epa.gov>  
**Subject:** RE: SEPW (minority) PAGs Discussion

I am available except for the OGWDW meeting at 3:30.

**From:** Greene, Ashley  
**Sent:** Monday, October 24, 2016 4:47 PM  
**To:** Christ, Lisa <[Christ.Lisa@epa.gov](mailto:Christ.Lisa@epa.gov)>; Burneson, Eric <[Burneson.Eric@epa.gov](mailto:Burneson.Eric@epa.gov)>  
**Subject:** RE: SEPW (minority) PAGs Discussion

The call will now be moved to next week (preferably Monday). I know Lisa is out and Peter is traveling, but they cannot do it tomorrow. Eric, can you let me know your availability between 12:30-4:30 next Monday?

Thanks,

Ashley

**From:** Greene, Ashley  
**Sent:** Monday, October 24, 2016 8:55 AM  
**To:** Christ, Lisa <[christ.lisa@epa.gov](mailto:christ.lisa@epa.gov)>; Burneson, Eric <[burneson.eric@epa.gov](mailto:burneson.eric@epa.gov)>  
**Subject:** SEPW (minority) PAGs Discussion

Hi Lisa and Eric,

Just a head's up that SEPW minority staff have requested a call to discuss the drinking water PAG. I am working with OCIR on scheduling for tomorrow afternoon (likely at 4:30).

Thanks,  
Ashley

\*\*\*\*\*



Ashley Greene

Special Assistant

Office of Ground Water and Drinking Water

U.S. Environmental Protection Agency

Phone: (202) 566-1738

Email: [greene.ashley@epa.gov](mailto:greene.ashley@epa.gov)

\*\*\*\*\*

**To:** Burneson, Eric[Burneson.Eric@epa.gov]  
**Cc:** Christ, Lisa[Christ.Lisa@epa.gov]  
**From:** Greene, Ashley  
**Sent:** Mon 10/24/2016 6:58:17 PM  
**Subject:** FW: OP edits to DW PAGs Issue Paper  
[Issue Paper DW PAG 10-24-16.docx](#)

Hi Eric,

Please see attached for OP's edits to the DW PAG transition issue paper. They look mostly minor, but they did flag one question in particular in the "Moving Forward" section. I think given the timing of the release, there will not be any choices/considerations for the next Administration, but wanted to run their edits and comments by you to make sure you are comfortable with the edits.

If you have any edits/comments on OP's edits, if you could please let me know by tomorrow.

Thanks,

Ashley

**To:** Christ, Lisa[Christ.Lisa@epa.gov]  
**From:** Perrin, Alan  
**Sent:** Mon 10/24/2016 5:48:17 PM  
**Subject:** FW: regarding PAGs and FOIA

I imagine you've already seen this? It is generating some press inquiries.

---

Alan Perrin, Deputy Director  
Radiation Protection Division, USEPA  
ofc (202) 343-9775 | mbl (202) 279-0376

**From:** Perrin, Alan  
**Sent:** Monday, October 24, 2016 1:14 PM  
**To:** Edwards, Jonathan <Edwards.Jonathan@epa.gov>; Werner, Jacqueline <Werner.Jacqueline@epa.gov>  
**Cc:** Ferguson, Rafaela <Ferguson.Rafaela@epa.gov>  
**Subject:** regarding PAGs and FOIA

FYI, PEER filing on PAGs:

<http://yubanet.com/usa/lawsuit-to-bare-full-range-of-epa-radiation-rollback/>

[http://www.peer.org/assets/docs/epa/10\\_24\\_16\\_Complaint\\_EPA-radionuclides.pdf](http://www.peer.org/assets/docs/epa/10_24_16_Complaint_EPA-radionuclides.pdf)

---

Alan Perrin, Deputy Director  
Radiation Protection Division, USEPA  
ofc (202) 343-9775 | mbl (202) 279-0376

**To:** Christ, Lisa[Christ.Lisa@epa.gov]  
**From:** Hernandez-Quinones, Samuel  
**Sent:** Wed 10/19/2016 4:25:43 PM  
**Subject:** Revised Version per Glynis Hill comments  
EO12866 PAG for DW 2060-ZA19 Final Guidance\_ghillcomments-shq.docx

Lisa,

Attached is the revised version based on Glynis Hill comments. The edits are highlighted in pages 4, 6, and 7.

Thanks

Sam

=====

Samuel Hernández Quiñones, P.E.  
Environmental Engineer  
Office of Water

Environmental Protection Agency  
1200 Pennsylvania Ave. NW  
Washington, DC 20460  
202-564-1735

"USEPA Protecting Human Health and the Environment"

**To:** Christ, Lisa[Christ.Lisa@epa.gov]; Burneson, Eric[Burneson.Eric@epa.gov]  
**Cc:** Huff, Lisa[Huff.Lisa@epa.gov]; Oshida, Phil[Oshida.Phil@epa.gov]  
**From:** Greene, Ashley  
**Sent:** Tue 10/11/2016 11:24:49 AM  
**Subject:** FW: Final PAG guidance (SAN 5198) to OP for OMB review  
[JBeauvais to LVaught re PAG for Drinking Water 10-06-16.pdf](#)  
[EO12866 PAG for DW 2060-ZA19 Final Guidance 20161006.docx](#)

FYI – in case Steph didn't provide for your records.

**From:** Evalenko, Sandy  
**Sent:** Friday, October 07, 2016 10:51 AM  
**To:** Muellerleile, Caryn <Muellerleile.Caryn@epa.gov>  
**Cc:** Arrigoni, Holly <Arrigoni.Holly@epa.gov>; Flaharty, Stephanie <Flaharty.Stephanie@epa.gov>; Gude, Karen <Gude.Karen@epa.gov>; Greene, Ashley <Greene.Ashley@epa.gov>  
**Subject:** Final PAG guidance (SAN 5198) to OP for OMB review  
**Importance:** High

Caryn: Attached is the Office of Water's submission of the Final Protective Action Guide for Drinking Water (PAG) (SAN 5198) for OMB review. I've attached Joel Beauvais' transmittal memo to Laura Vaught. Please let me know if you have any questions.

Thanks,

Sandy

*Sandy Evalenko  
Water Policy Staff  
Office of Water (4101M)  
3226K WJC East  
(202) 564-0264 telephone*

**To:** Christ, Lisa[Christ.Lisa@epa.gov]  
**Cc:** Burneson, Eric[Burneson.Eric@epa.gov]; Harris, Adrienne[Harris.Adrienne@epa.gov]  
**From:** Greene, Ashley  
**Sent:** Tue 9/27/2016 1:10:41 PM  
**Subject:** RE: drinking water PAG briefing 9/29  
SHQ Radiation Protective Action Guide Administrator Brief 9 29 16 v6.pptx

Hi Lisa,

Peter had a few changes to slide 6 on wording. Please let me know if you see any issues and then we'll send forward to OW.

Thanks,

Ashley

**From:** Greene, Ashley  
**Sent:** Monday, September 26, 2016 5:33 PM  
**To:** Christ, Lisa <Christ.Lisa@epa.gov>  
**Cc:** Harris, Adrienne <Harris.Adrienne@epa.gov>  
**Subject:** RE: drinking water PAG briefing 9/29

I didn't see Eric on this email, but I'm assuming he is good with it?

Thanks,

Ashley

**From:** Christ, Lisa

**Sent:** Monday, September 26, 2016 4:17 PM

**To:** Greene, Ashley <[Greene.Ashley@epa.gov](mailto:Greene.Ashley@epa.gov)>; Harris, Adrienne <[Harris.Adrienne@epa.gov](mailto:Harris.Adrienne@epa.gov)>

**Cc:** Wadlington, Christina <[Wadlington.Christina@epa.gov](mailto:Wadlington.Christina@epa.gov)>; Hernandez-Quinones, Samuel <[Hernandez.Samuel@epa.gov](mailto:Hernandez.Samuel@epa.gov)>; DeCair, Sara <[DeCair.Sara@epa.gov](mailto:DeCair.Sara@epa.gov)>; Veal, Lee <[Veal.Lee@epa.gov](mailto:Veal.Lee@epa.gov)>; Hill, Glynis <[Hill.Glynis@epa.gov](mailto:Hill.Glynis@epa.gov)>

**Subject:** drinking water PAG briefing 9/29

All,

Attached are the presentation slides for the Administrator briefing on Thursday.

Lisa

**To:** Christ, Lisa[Christ.Lisa@epa.gov]  
**From:** Burneson, Eric  
**Sent:** Mon 9/26/2016 9:32:15 PM  
**Subject:** RE: FOR REVIEW: drinking water PAG chapter - incorporates public and internal EPA comments  
RedLine Draft DW PAG OGWDW 9-22-Ver2. lc egb.docx

See my two comments in the attached. Once those are addressed you can send this forward.

**From:** Christ, Lisa  
**Sent:** Monday, September 26, 2016 3:28 PM  
**To:** Burneson, Eric <Burneson.Eric@epa.gov>  
**Subject:** FOR REVIEW: drinking water PAG chapter - incorporates public and internal EPA comments

I'll bring hard copies too.



**To:** Christ, Lisa[Christ.Lisa@epa.gov]  
**Cc:** Harris, Adrienne[Harris.Adrienne@epa.gov]  
**From:** Greene, Ashley  
**Sent:** Mon 9/26/2016 6:01:24 PM  
**Subject:** RE: PAGs Briefing for Thursday

Thanks for the update! (Peter couldn't remember 😊 )

**From:** Christ, Lisa  
**Sent:** Monday, September 26, 2016 1:00 PM  
**To:** Greene, Ashley <Greene.Ashley@epa.gov>  
**Cc:** Harris, Adrienne <Harris.Adrienne@epa.gov>  
**Subject:** RE: PAGs Briefing for Thursday

Joel asked for a couple revisions to the slides. We are working in them now – they'll be ready later today.

**From:** Greene, Ashley  
**Sent:** Monday, September 26, 2016 1:58 PM  
**To:** Christ, Lisa <Christ.Lisa@epa.gov>  
**Cc:** Harris, Adrienne <Harris.Adrienne@epa.gov>  
**Subject:** PAGs Briefing for Thursday

Hi Lisa,

I didn't attend the LCR weekly on Friday where you also discussed the Administrator PAGs briefing. Was Joel good with the draft slides you all provided? Just trying to check on the status as they will be due to OW by COB tomorrow.

Thanks,

Ashley

\*\*\*\*\*

Ashley Greene

Special Assistant

Office of Ground Water and Drinking Water

U.S. Environmental Protection Agency

Phone: (202) 566-1738

Email: [green.ashley@epa.gov](mailto:green.ashley@epa.gov)

\*\*\*\*\*

**To:** Christ, Lisa[Christ.Lisa@epa.gov]  
**From:** Hernandez-Quinones, Samuel  
**Sent:** Mon 9/26/2016 3:26:11 PM  
**Subject:** RE: Edited versions  
RedLine Draft DW PAG OGWDW 9-22-Ver2.docx  
Formatted EPA Drinking Water PAG 5-23-16 final.docx

Hi Lisa,

Yes, attached is the word version of the Draft PAG.

Also I am sending you another version of the redline strikeout which reads better than the version I sent you last week.

Sam

**From:** Christ, Lisa  
**Sent:** Thursday, September 22, 2016 4:45 PM  
**To:** Hernandez-Quinones, Samuel <Hernandez.Samuel@epa.gov>  
**Subject:** RE: Edited versions

Hi – quick question...do you have a WORD version of the document that was posted for public comment?

Lisa

**From:** Hernandez-Quinones, Samuel  
**Sent:** Thursday, September 22, 2016 4:20 PM  
**To:** Christ, Lisa <Christ.Lisa@epa.gov>  
**Subject:** Edited versions

Attached.

Sam

=====

Samuel Hernández Quiñones, P.E.  
Environmental Engineer  
Office of Water

Environmental Protection Agency  
1200 Pennsylvania Ave. NW  
Washington, DC 20460  
202-564-1735

"USEPA Protecting Human Health and the Environment"

**To:** Christ, Lisa[Christ.Lisa@epa.gov]  
**From:** Hernandez-Quinones, Samuel  
**Sent:** Thur 9/22/2016 8:20:19 PM  
**Subject:** Edited versions  
Clean Version Draft DW PAG OGWDW 9-22.docx  
Redline Draft DW PAG OGWDW 9-22.docx

Attached.

Sam

=====

Samuel Hernández Quiñones, P.E.  
Environmental Engineer  
Office of Water

Environmental Protection Agency  
1200 Pennsylvania Ave. NW  
Washington, DC 20460  
202-564-1735

"USEPA Protecting Human Health and the Environment"

**To:** Hernandez-Quinones, Samuel[Hernandez.Samuel@epa.gov]; Christ, Lisa[Christ.Lisa@epa.gov]; Veal, Lee[Veal.Lee@epa.gov]; Perrin, Alan[Perrin.Alan@epa.gov]; Edwards, Jonathan[Edwards.Jonathan@epa.gov]; Werner, Jacqueline[Werner.Jacqueline@epa.gov]; White, Rick[White.Rick@epa.gov]; Nesky, Anthony[Nesky.Tony@epa.gov]; Wieder, Jessica[Wieder.Jessica@epa.gov]; Shogren, Angela[Shogren.Angela@epa.gov]  
**From:** DeCair, Sara  
**Sent:** Tue 9/13/2016 3:28:40 PM  
**Subject:** WSJ on Emergency drinking water PAGs  
EPA Proposes New Water Rules for Nuclear Emergencies - WSJ.pdf

Region 6 PIOs got the full article copy for us. Please see attached.

**From:** Brozowski, George  
**Sent:** Tuesday, September 13, 2016 11:24 AM  
**To:** Generette, Lloyd <Generette.Lloyd@epa.gov>; DeCair, Sara <DeCair.Sara@epa.gov>  
**Subject:** Emergency drinking water PAGs

George P. Brozowski

Regional Health Physicist/Radon Coordinator

US EPA – R6

1445 Ross Avenue

Mail Stop - 6MM-XU

Dallas, TX 75202

214-665-8541 o

214-755-1530 c

**From:** Durant, Jennah  
**Sent:** Tuesday, September 13, 2016 10:20 AM  
**To:** Brozowski, George <[brozowski.george@epa.gov](mailto:brozowski.george@epa.gov)>; Hubbard, Joseph <[Hubbard.Joseph@epa.gov](mailto:Hubbard.Joseph@epa.gov)>  
**Subject:** RE: Emergency drinking water PAGs

Hi George, here's a PDF of the article.

**From:** Brozowski, George  
**Sent:** Tuesday, September 13, 2016 9:16 AM  
**To:** Hubbard, Joseph <[Hubbard.Joseph@epa.gov](mailto:Hubbard.Joseph@epa.gov)>; Durant, Jennah <[Durant.Jennah@epa.gov](mailto:Durant.Jennah@epa.gov)>  
**Subject:** FW: Emergency drinking water PAGs

Good morning folks and can you open the WSJ article and send it back to me? Thanks!

George P. Brozowski

Regional Health Physicist/Radon Coordinator

US EPA – R6

1445 Ross Avenue

Mail Stop - 6MM-XU

Dallas, TX 75202

214-665-8541 o

214-755-1530 c

**From:** Generette, Lloyd  
**Sent:** Tuesday, September 13, 2016 9:13 AM  
**To:** DeCair, Sara <[DeCair.Sara@epa.gov](mailto:DeCair.Sara@epa.gov)>  
**Cc:** Brozowski, George <[brozowski.george@epa.gov](mailto:brozowski.george@epa.gov)>  
**Subject:** FW: Emergency drinking water PAGs

Good morning Sara.

I hope that you are having a good week. I'm trying to forward the below article to a couple of colleagues here in ATL but ran into a firewall problem. I can read it on my smartphone but when I forwarded it to my desktop it wouldn't open because it's a WSJ subscription account. Could you or someone in your shop open it and/or convert it and send it out?

Thanks

Lloyd

**From:** Lloyd Generette [mailto:Ex. 6 - Personal Privacy]  
**Sent:** Tuesday, September 13, 2016 9:41 AM  
**To:** Generette, Lloyd <[Generette.Lloyd@epa.gov](mailto:Generette.Lloyd@epa.gov)>  
**Subject:** Emergency drinking water PAGs

EPA Proposes New Water Rules for Nuclear Emergencies - WSJ  
<http://www.wsj.com/articles/epa-proposes-new-water-rules-for-nuclear-emergencies-1473725010>



DAVID VITTER, LOUISIANA  
JOHN BARRASSO, WYOMING  
SHELLEY MOORE CAPITO, WEST VIRGINIA  
MIKE CRAPO, IDAHO  
JOHN BOOZMAN, ARKANSAS  
JEFF SESSIONS, ALABAMA  
ROGER WICKER, MISSISSIPPI  
DEB FISCHER, NEBRASKA  
MIKE ROUNDS, SOUTH DAKOTA  
DAN SULLIVAN, ALASKA

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JEFF MERKLEY, OREGON  
KIRSTEN GILLIBRAND, NEW YORK  
CORY A. BOOKER, NEW JERSEY  
EDWARD J. MARKEY, MASSACHUSETTS

## United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

WASHINGTON, DC 20510-6175

RYAN JACKSON, MAJORITY STAFF DIRECTOR  
BETTINA POIRIER, DEMOCRATIC STAFF DIRECTOR

July 25, 2016

The Honorable Gina McCarthy  
Administrator  
United States Environmental Protection Agency  
William Jefferson Clinton Building  
1200 Pennsylvania Avenue, N.W.  
Mail Code 1101A  
Washington, D.C. 20460

Re: Draft Protective Action Guides for Radionuclides in Drinking Water

Dear Administrator McCarthy,

As the Ranking Member of the U.S. Senate Committee responsible for oversight of the Environmental Protection Agency (EPA), I write to express my concern about EPA's proposal to allow radioactivity in drinking water after a radiological incident at concentrations greatly above the maximum contaminant levels (MCL) set pursuant to the Safe Drinking Water Act (SDWA). Protecting the public from contamination in the water they drink is a critical duty of EPA, and I strongly urge you not to weaken radiation protection standards.

Protection of public health should be the first priority in any radiological incident response and recovery. The SDWA MCL for radionuclides in drinking water of 4 millirems (mrem) per year is designed to protect the public from increased cancer risk. Relaxing that standard could result in a much higher cancer risk, which is not acceptable.

In 2009, a similar proposal was made by the Bush Administration and subsequently withdrawn. In 2011, EPA concluded that in case of a radioactive release, the Safe Drinking Water contaminant limits would continue to be employed to protect the public from excessive radiation exposure. I am therefore troubled that EPA is now proposing to reverse that position and allow radioactivity levels far higher than SDWA MCLs -- and even higher levels than the controversial proposal it reversed upon coming into office.

The current proposal for new Protective Action Guides (PAGs) would allow strontium-90, which concentrates in bone and can cause bone cancer and leukemia, at levels 925 times the maximum contaminant limits of the Safe Drinking Water Act. It would allow iodine-131, which concentrates in the thyroid gland and can cause thyroid cancer, at concentrations 3,450 times higher than Safe Drinking Water limits. And it would allow 83 times higher levels of cesium-137, a powerful radionuclide that can irradiate the whole body.

EPA should not contemplate such significant reductions in public protection for something as essential to all of us as safe drinking water. The proposal is not restricted to catastrophic nuclear accidents, but covers "any release or potential release into the environment of radioactive materials in sufficient quantity to warrant consideration of protective actions."

The proposed Protective Action Guides could have a significant negative impact on public health by declaring that no protective actions need be taken to prevent people from being exposed to radioactivity in the water they drink -- even when the concentrations are much higher than the levels long deemed by EPA as the maximum acceptable contaminant limit. If there is a radiation release for which protective actions are to be considered, these Protective Action Guides will be used to determine if people will or will not be protected. As written, they would not be, even if their water contained high levels of radioactivity.

I urge you to not weaken radiation protection standards and return to a commitment to protect the American people from radioactive contamination that exceeds Safe Drinking Water Act levels.

Sincerely,

A handwritten signature in dark ink that reads "Barbara Boxer". The script is fluid and cursive, with the first name and last name clearly distinguishable.

Barbara Boxer  
Ranking Member

**From:** Wieder, Jessica  
**Location:** DCRoomWest1424/OPEI  
**Importance:** Normal  
**Subject:** RESCHEDULED: PAG Comm Tool - Comment Review  
**Start Date/Time:** Thur 10/27/2016 5:00:00 PM  
**End Date/Time:** Thur 10/27/2016 6:30:00 PM  
PAGs Comm Tool QA 10202016.docx

Ex. 6 - Personal Privacy

<http://epawebconferencing.acms.com/wieder/>

**From:** DeCair, Sara

**Location:** phone:

**Importance:** Normal

**Ex. 6 - Personal Privacy**

**Subject:** More on DQOs, with FRMAC Player book in hand

**Start Date/Time:** Thur 10/13/2016 3:30:00 PM

**End Date/Time:** Thur 10/13/2016 4:30:00 PM

FRMAC Mission Analysis (FMA).pdf

If you find any gems in your reading before this call, please do send it out. I plan to have the Player book in hand to refer to (from Wendy). Let me know if a time or day tweak is needed - thanks!!

Check out p. C-29 of FRMAC Mission Analysis, it does suggest 10% of Relo PAG for expedited return, and I think I see a few other more quantified DQO type things.

**From:** Wieder, Jessica  
**Location:** DCRoomWest1424/OPEI  
**Importance:** Normal  
**Subject:** PAGs public Q&As  
**Start Date/Time:** Mon 12/7/2015 7:30:00 PM  
**End Date/Time:** Mon 12/7/2015 8:00:00 PM  
TF Project 6 Final Report December 2013.pdf

Attached is a document created by Dr. Stephen Becker as part of a contact with DNDO, which included messages about PAGs. The PAG Q&A section is really quite good. Should we add these to our PAG FAQ section of the web or make them into a document on the web?  
Check out pages 34-42 of the attached pdf.

**From:** Wieder, Jessica

**Location:**

**Ex. 6 - Personal Privacy**

**Importance:** Normal

**Subject:** Drinking Water PAGs Comm Review

**Start Date/Time:** Fri 5/8/2015 5:00:00 PM

**End Date/Time:** Fri 5/8/2015 6:00:00 PM

**From:** DeCair, Sara  
**Location:** DCRoom1310L509p12PCPoly/DC-1310L-OAR  
**Importance:** Normal  
**Subject:** Radiation Protection briefing for NHSRC  
**Start Date/Time:** Wed 3/19/2014 1:00:00 PM  
**End Date/Time:** Wed 3/19/2014 3:00:00 PM

Provide briefings on PAGs, Federal Guidance updating, and other radiation protection topics as requested by NHSRC.

Phone line: Ex. 6 - Personal Privacy  
Webinar: <https://epa.connectsolutions.com/radpro/>